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THE RAILWAY GAZETTE
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Transport Commission Western Region Tour

SIR CYRIL HURCOMB, Chairman of the British Transport Commission, has toured a number of the railway regions since the beginning of this year, and during his visits has inspected the principal transport centres and works. These visits of inspection are somewhat analogous to those which formerly were conducted by the chairmen and boards of the railway companies, although there is a marked difference in the way in which they are carried out. The old railway inspections were not marked by the intensive publicity which is accorded those of the Commission. The general manager always accompanied the chairman on these tours, and his place is taken by a member of the Railway Executive, one or other of whom has been attached to Sir Cyril Hurcomb's party on each regional visit. As will be seen from a report of the most recent tour—that to Swindon and South Wales—elsewhere in this issue, opportunity is taken to announce various improvements, either actual or contemplated, to railway works and amenities during the course of the tour. Some of these will be familiar to our readers as having been announced by Lord Portal when he visited South Wales in January, 1946. Their completion has had to be postponed, but they will form part of the programme inherited by the Commission. During the tours, the Chairman of the Commission met a number of civic authorities, representatives of trading associations, local industrialists, and so forth, thus continuing a custom which was adopted by the railway chairmen. The belief that under a nationalised transport system a greater measure of austerity would be introduced into such inspections is not borne out by the reports of the hospitality provided.

* * * *

The Fate of Trieste

As the map of Europe is recast new railway administrations are brought into being and established systems are disrupted. The report we carry this week of one such new administrative area appears likely to pass, even more rapidly than usual during the ferment of recent years, into history. The Free Territory of Trieste, a bone of contention since the day it was constituted, has not been a success, and controversialists on both sides of the iron curtain are agreed, at least, that its independence cannot be a reality. This is certainly true from the transport viewpoint; ships have been avoiding the port, with consequent heavy unemployment, and it only needs a glance at the railway map we publish on another page to see that the port must be integrated with the economic system of either Jugoslavia or Italy. The ideal would no doubt be for all neighbouring countries to make full use of it, so that it may serve the vast hinterland merited by its geographical position. Until that remote date when eastern and western Europe can unite amicably, however, economic good sense will be served by its reversion to Italy.

* * * *

Motive Power and Rolling Stock for Kenya

In moving the adoption of the draft estimates of revenue and expenditure of the Kenya & Uganda Railways & Harbours for 1948, Sir Reginald Robins, who was General Manager at the time, recalled his recent visit to Great Britain and his efforts to obtain additional rolling stock and locomotives. He found that priority in these matters was being given to Tanganyika on account of the requirements of the groundnuts scheme, and he took the opportunity of pointing out the necessity of regarding East African transport problems as a whole. He again emphasised in his speech that there was no real physical barrier between the three territories of Kenya, Uganda, and Tanganyika and said it would be quite useless to concentrate on the Tanganyika system without considering the other railways. As is now well known, moves for a unified transport system in East Africa are in hand at the present time, and Sir Reginald Robins has been appointed Member for Transport in a new executive organisation, as reported in our issue of January 9. He encountered the difficulty while in England that private manufacturers of rolling stock were being required by the Government to divert from 25 to 30 per cent. of their production to the home railways, but his request received reasonable consideration, and he hoped that by the end of 1949 and 1950, railways in Kenya and Uganda would receive some sup-

plies of rolling stock. He also was able to place an order for six locomotives, and was advised later that the number could be increased to sixteen.

* * * *

Overseas Railway Traffics

Leopoldina traffics have continued at a lower level than in 1947 since the recent strike, but the gap is closing gradually. There was a deficit of £17,662 in the week ended March 13, but the next seven days achieved results within £5,936 of the preceding year. The decline on aggregate is £117,768. In the past fortnight on the Great Western of Brazil, there has been a net gain of £800, a decrease of £1,400 having been followed by a rise of £2,200 in the week ended March 20. Aggregate results show an improvement of £4,400. Central Uruguay traffics have improved, an increase of £15,846 being shown in the week ended March 20, the two preceding weeks having brought advances of £571 and £397. Aggregate traffics, however, are still £89,853 behind the previous year. Among the associated companies, the Midland Uruguay is £10,100 above its total for the corresponding period of 1946-47, but the Uruguay Northern and North Western of Uruguay are respectively £965 and £3,127 down on their aggregate results. Egyptian Delta earnings are maintaining recent improvements, although still showing a reduction of £48,579 on aggregate compared with the previous year. Antofagasta traffics have been showing considerable increases, with gains of £20,500, £12,470, and £16,010 in the first three weeks of March. Canadian Pacific results for February show a net deficit of £83,500, working expenses having increased by £639,500 to £6,155,000, against gross receipts of £6,071,500, which were £812,750 higher than in 1947. Aggregate gross earnings for the two months are £12,303,000, an increase of £1,204,500, and there is an aggregate net deficit of £57,750.

* * * *

Impact of Greater London Plan on Transport Facilities

No Londoner would view calmly the prospect of any further burden on the already overstrained transport facilities which he uses. But that, in the opinion of a correspondent whose article appears elsewhere in this issue, is the probable effect of the Greater London Plan as it now stands. He contends that the plan provides for the decantation of 1¼ million of the resident population from the central area to other sites within the orbit of London Transport, without simultaneously providing for a transfer of industries. The inevitable effect will be more travelling by the transferred workers. Our correspondent makes a case for reconsideration of the Greater London Plan, which is now more than four years old. This could be undertaken by a body empowered to amend the plan and control the immigration from the provinces, which still proceeds apace on account of the employment opportunities offering in the metropolis. Failing such action, the planned movement of population will be neutralised by this immigration into the central area, resulting in the creation of a population bloc of unprecedented dimensions, without adequate transport facilities to move it.

* * * *

The Signal Engineer under Nationalisation

Mr. Arthur Moss, Signal & Telecommunications Engineer of the Eastern Region, British Railways, who was elected to the chair of the Institution of Railway Signal Engineers on March 16, took occasion to refer in his presidential address, summarised in this issue, to the effect of the change in the ownership of the railways on the organisation of the work with which members of that body are concerned. He dwelt on the problem of standardisation and the general similarity of circumstances to those obtaining at the time of the grouping, which also followed the disturbance caused by a war. The placing of all signalling and telecommunication work in charge of officers who are independent of the civil engineers, Mr. Moss emphasised, should have a far-reaching influence on future policy and enable certain desirable changes to be introduced. Automatic train control and the extension of colour-light signalling also claimed his attention. In the work of the Institution he has taken always the greatest interest, and we trust that his appeal to the younger members touching their attitude to it and to their professional work will meet with a wide response.

A Stop to Streamlining?

Elaborating a comment on streamlining made by the Railway Executive in reply to a question, *The Times* foresees an end to locomotives having the appearance of "projectiles for interplanetary travel." Before the war there is no doubt that streamlining stimulated and revived public interest in railways, however much or little it may have contributed to the speeds attained. It was a period of widespread accelerations, and although many of the runs were made by locomotives of conventional and even rugged appearance, all were entitled to be honoured for belonging to a method of transport that was meeting the demand for faster travel to the best of its ability. In present conditions, however, the steam locomotive in this country is not associated in the public mind with rapidity of movement, and the sight of streamlining may even be an irritation after a long and tedious journey. It is probably safer to woo the public with new colour schemes that signify nothing in particular, rather than with an external form that makes a promise which cannot be fulfilled. In any case, the word has suffered from its adoption by politicians, the frustration of whose "streamline measures" by the economic crisis has brought widespread disenchantment.

* * * *

Transport Public Relations

WITH the growth of modern large-scale undertakings, and particularly, perhaps, those of the socialised industries, the adoption of efficient public relations is considered to have become increasingly important. The expansion in the numbers of public relations officers, both for Government departments and industrial undertakings, has become a feature of present-day organisations, although there is considerable divergence in practice as to the place to be occupied by the P.R.O. and his department in the overall set up. In large-scale businesses the place occupied in the organisation is of some importance from the viewpoint of achieving the best results.

In the case of a nationalised industry or unnationalised "big business," effective public relations may be vital to its efficient conduct. There is a natural tendency for public relations officers to assume that, by reason of their appointment, they should be responsible for the conduct of all contacts with members of the public which fall within the definition of their office. On the other hand, it may equally well be argued that public relations in its best sense is an integral part of management, and as such should be conducted by those who administer the undertaking as a whole. Only the management of these undertakings can be in possession of all the facts, and able to call on the technical knowledge, which together enable good public relations to be maintained.

Too narrow a view of the public relations function is often adopted. Its objectives should not be confined to the propagation of matter designed to boost the undertaking. It should aim rather at the systematic cultivation of goodwill by the creation of a better understanding on the part of the public and all those who use the goods or services provided. This can be achieved by explaining the objectives of the undertaking, the steps which are being taken to achieve them, and the manner in which difficulties and problems are being tackled or overcome, the technical developments which make for greater efficiency, and so forth. It is fairly clear that for this work to be efficiently conducted the management of the undertaking must understand, not only the importance, but the technique, of public relations, and take an active part in it.

The public relations officer, as such, is dependent on the active interest of the management to ensure that he is kept properly informed on developments in which the public may be interested, so that he can maintain contact with members of the press and other similar channels, make known through them developments as they occur, and deal with inquiries arising out of the interest in the affairs of the undertaking.

The place which the public relations officer should occupy in the organisation is more difficult to define. It will be recalled that when Lord Reith was at the head of the B.B.C., the Chief Public Relations Officer of that body, Sir Stephen Tallents, was placed near to the Chairman. That experiment was not a success and has since been abandoned. One of the disadvantages of having a public relations officer at a high level in an organisation is that he is necessarily regarded as the mouthpiece of it, and his utterances are suspect of bias.

Often enough, also, there is a certain amount of prejudice against the public relations officer on the part of the technical members of a staff, and reluctance to afford him all the information which he may require for dissemination. If, however, the public relations function is recognised as an integral part of management, and some member of the administration is responsible for it, and for ensuring that the P.R.O. is kept advised of developments, not only is the overall objective of cultivating public goodwill likely to be more efficiently achieved, but the public relations officer himself will be better able to carry out his own function.

On matters of policy the Chairman or some member of the controlling body of the organisation necessarily will be the person best able to conduct public relations, either on his own initiative or by directing a technical officer to deal with the matter in question. This applies, perhaps particularly to subjects which are of particular interest to the technical and financial press, or to such bodies as Parliament, Chambers of Commerce, and so forth.

The late Mr. Frank Pick, who was ultimately responsible for the public relations of the Underground group of companies, and later for some time of the London Passenger Transport Board, maintained that it was necessary to draw a clear distinction between publicity and advertising. In an address to the Institute of Transport in 1939, he pointed out that advertising was concerned with the selling of wares or, in the case of transport undertakings, of service. It was included under publicity as one phase of it, but publicity also comprised "the establishment and nourishment of goodwill, the cultivation and sweetening of public relations." Advertising, he maintained, should remain with the commercial department to be judged by its results in the expansion of the traffic. He was emphatic that "publicity proper should go to form a part of the higher managerial functions, becoming closely associated with those who direct the policy and activities of the organisation as a whole."

In expressing his opinion that advertising should remain with the commercial department and be judged by its results in the expansion of traffic, Mr. Pick appears to have overlooked the growth of "institutional," propaganda, and "goodwill" advertising, of which there has been a great growth in the past twenty years, government departments largely indulging in it. Surely, this type of advertising must come under the control of the public relations officer in that it is non-commercial. Whether it is really effective is another matter. Much money was spent by the main-line railways in extolling their war service and in a later period in opposing the Transport Bill. But it did not save them from nationalisation. There is no gratitude in business or public service.

* * * *

The Transport Commission and its Executives

IN our last week's issue we discussed the general approach to the unification of British transport as laid down in the Transport Act of 1947. We then expressed the view that as a good deal of unification had been achieved between the railways, the railway-owned docks, the railway-owned hotels and the railway-owned transport undertakings, it seemed a retrograde step to have amputated these various limbs and marked them down for transfer to other Executives.

The Transport Act itself specifically provided that Executives should be set up and that unless, and until, other provision was made by order of the Minister after consultation with the British Transport Commission, the Executives should be the Railway Executive, the Docks & Inland Waterways Executive, the Road Transport Executive, the London Transport Executive and the Hotels Executive. On the other hand, the Act did not lay down that businesses already operated by, for example, a railway, should be transferred to one of the other Executives, although as the only hotels passing to the Commission are those which were previously owned by the railway companies, this might be deemed implicit, although not explicit in the Act. There seems to be even less justification for the transfer of railway dining cars and station restaurants to the Hotels Executive, as these are an ordinary part of the conduct of the business of a railway. The severance of railway docks, also, will lead to unnecessary complication and duplication of work, and certainly is unlikely to make either for an easier flow of traffic or for co-ordination of administration.

The severance and transfer of formerly railway-owned road undertakings, similarly, seems to us to be likely to result in operation at increased cost, and to be a move away, rather than towards, the integration of services which is called for by the Act. It is laid down specifically that the general duty of the British Transport Commission is so to exercise its powers as to secure the provision of an efficient, adequate, economical and properly integrated system of public inland transport and port facilities within Great Britain for passengers and goods. Moreover, all the businesses carried on by the Commission are to form one undertaking and the Commission is to conduct that undertaking so as to secure that its revenue is not less than sufficient for making provision for meeting charges to revenue taking one year with another.

* * * *

A Freak of Nationalisation

ONE of the curious situations which has arisen in the course of nationalisation is that the first group of provincial motorbus companies to pass to national ownership does so on April 1, but as a result of the operations of the Electricity Act, not of the Transport Act. Moreover, the properties pass immediately to the British Electricity Authority, which was established by the Act of August 13, 1947, and not to the British Transport Commission.

The reason for this peculiarity is that holding companies with predominant interests in electricity are taken over in their entirety by an exchange of stock, and that one such company is the Midland Counties Electric Supply Co. Ltd., an important unit under the management of Balfour, Beatty & Co. Ltd., which owned the whole of the share and loan capital of various companies, including the Midland General Omnibus Co. Ltd., the Nottinghamshire & Derbyshire Traction Company, and the Mansfield District Traction Company. This transfer was described by the Chairman at the recent meeting of the Midland Counties Electric Supply Co. Ltd. as a gift to the State, as there is no separate compensation for properties of a value of approximately £1½ million. The Chairman said that there had been a net increase of £195,747 in the capital expenditure of the road transport undertakings during the past year, and the total now figured at £1,493,502, against which depreciation provided and sums written off amounted to £615,952. He said: "The traction revenues were largely ploughed back into that section of our business, thus avoiding, to a considerable extent, new issues of capital for its development. The basis of statutory compensation results, therefore, in the anomalous and thoroughly inequitable position that, to all intents and purposes, the State receives a gift of the whole of our traction undertakings which we value at upwards of a million and a half pounds sterling. Common justice should have demanded special compensation in respect of our traction assets, the result of which would have been to increase substantially the statutory compensation payable to our stockholders. The unfairness of this treatment is emphasised when it is realised that other road passenger transport undertakings not owned by a holding company with predominant interests in electricity are able to negotiate the prices of their transport undertakings with the appropriate Ministry on a basis in accord with their values. The prices of some of the leading traction stocks in the market present evidence of the validity of our criticism, and underline the grave injustice inflicted, particularly on the holders of ordinary stock."

The total fleet of the three operating companies, which are closely related, now consists of 372 vehicles; no fewer than 105 new vehicles have been delivered during the past two years. During 1947, some 79,000,000 passengers were carried, an increase of 3,000,000 over those carried in 1946. The stage carriage services now cover approximately 570 route-miles. The largest unit of the group is the Midland General, which was incorporated on June 19, 1920, and has developed a series of about 30 bus routes in the area between Nottingham, Ilkeston, Ripley, Matlock, Chesterfield, and Mansfield; these use some 250 vehicles. The Nottinghamshire & Derbyshire Traction Company, originally a tramway company, which converted its system to trolleybus operation in 1932-1933, operates a total of 19 route-miles with trolleybuses between Nottingham and Ripley. Friendly arrangements exist with neighbouring

railway-associated companies, and there have been joint workings with the Trent Motor Traction Co. Ltd. The Mansfield District Traction Company, in addition to sharing with the Midland General in operations in the neighbourhood of Mansfield, operates its own group of services in an area immediately to the north-west of the other two companies, and extending as far as Newark. Friendly relationships have existed with the railways, and arrangements were made for the Mansfield—Southwell—Newark bus service to be inaugurated by the L.M.S.R. on August 1, 1929, to be operated by the Mansfield District Company on behalf of the railway. This was worked as a joint service until the railway sold its interest to the Mansfield District Company in July, 1935. The Chairman of all three companies is Sir Joseph Nall.

In passing, it may be recalled that a similar anomaly of nationalisation, but on a very much smaller scale, occurred with the railways. The first railways to be taken over by the State, including at least one passenger-carrying line, passed to the National Coal Board on January 1, 1947.

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Railway Monopoly under Nationalisation?

OUR March 19 issue contained a report of the proceedings at the annual luncheon of the Mansion House Association on Transport, when the Minister of Transport, Mr. Alfred Barnes, M.P., made an important statement about the future of the British Railways. He said emphatically that, whatever developments might take place in transport, it would always be essential to maintain the main-line railways in a state of efficiency. As it happens, the present trend of the Government's economic policy is likely to give the railways a virtual monopoly of long-distance traffic, which they did not enjoy when they were managed by the four groups between the wars.

We set out below some of the measures which are calculated to increase railway passenger and freight traffics:—

(1) the suspension of basic petrol for private motorists;

(2) the restricting of hire-car journeys to 20 miles;

(3) the reduction in the building of public-service passenger vehicles, for the home market, from an annual rate of 10,000 at the end of 1947 to a rate of 4,000 at the end of 1948 (this means that the number of new vehicles put on the road will be about 2,000 less in 1948 than it was last year);

(4) the limit of 25 miles from the operating centre put on road freight hauliers holding "A" and "B" licences;

(5) a cut of about 50 per cent. in the rate of building new goods motor vehicles, bringing down the number put on the road from 100,000 in 1947 to 50,000 in 1948.

The "Economic Survey for 1948" explains that (3) and (5) above form part of the Government's plans to reduce capital development and increase the proportion of our motor vehicle output which will be available for export. Probably the curtailment of the number of goods vehicles on the home market will check to some extent the growth in "C" licences, which is causing the Minister of Transport anxiety. Altogether the Government's policy is bound to strengthen the control of the British Transport Commission over the distribution of the total volume of inland transport between rail, road, and water. The Railway Executive may also have a chance of removing the misconception held in certain quarters last November that it could not deal with any increase of traffic which greater industrial productivity might bring about.

* * * *

Big-Engine Policy

IT is established that there are certain railway traffics which lend themselves to being moved by locomotives of large haulage capacity. The number of such locomotives required must be given careful scientific study by the operating departments. There is evidence that this desire for large locomotives may become a fetish, and may be overdone considerably. There are only certain sections of line where full loads can be taken, and one of the limiting factors is the length of refuge sidings or lie-bys where mineral or freight trains have to be side-tracked to allow more important trains to pass. In the past, certain railways did accomplish good operating performance, good timekeeping, and fluidity, with the policy designed for small profits and quick returns. In this country there is, at the present time, a great number of large locomotives, especially freight locomotives.

While it is understood that there are many variables which enter into successful operating, it must be apparent to interested railway travellers that there is a slowing up in the speed of operation when trains are seen standing with a large number of wagons and a large locomotive in front. How often is the time noticed which is taken for a large locomotive to get a heavy train on the move? When this happens, it is obvious that margins, however carefully laid down, must be interfered with. The time taken to control a large, loaded train of loose-covered wagons also must be considered.

When studying statistics of present-day operation, not being unmindful of the upsetting of schedules attributable to the war years, the speed of working is seen to be considerably down; also, the number of footplate men employed has been increased thereby. Some of this increase has been brought about by policy over double-home turns, but the fact remains that the hauling of large trains, braking of large trains, and refuging of large trains, take more time than is usually necessary for reasonable loads.

It may be said that large locomotives and large trains are necessary in order to give full line capacity; but is this so, as quicker movement must of itself give a very much improved line capacity? We know that, when continuous brakes become standardised for all types of trains in this country, there will be a revolution in the speed of working; but until this comes about, very careful research should be put into speeding up. Economic workings and loads must be established for various sections, not only on the old idea of "small profits and quick returns," but by such improvement in speed and avoidance of delay that the economy effected will be great.

It is understood that any railway, or part of any railway, must have a correct number of units in order to move its traffic, but if money is expended on a surplus of large locomotives, then the number of units may become insufficient for the various types of traffic offering. Another point—where there is a happy medium, namely, when double-heading of loaded trains has to be resorted to, the units available at the terminus where the loaded trains finish are available for working return empty wagon trains or goods trains. Such locomotives can run these types of trains at a greater speed and improved overall timings, with less expenditure.

* * * *

British Railways Numbering Policy

SHORTLY after announcing the forthcoming locomotive exchanges between the regions of British Railways, which were recorded in our March 26 issue, the Railway Executive gave particulars of a new numbering system that will be put into effect as locomotives pass through the shops for repair. In this system, which is given in detail elsewhere in this issue, a separate number group is allotted to each region, and the groups are sub-divided so as to differentiate between steam, diesel, electric, and gas-turbine locomotives. Separate series of numbers have been provided on the same principle for classes under development. For the most part, it will be possible to retain existing numbers, or make a slight addition to them, and the scheme follows on from the comprehensive renumbering undertaken recently by the former L.N.E.R.

It has been decided to adopt a uniform system of displaying the number on the front of steam locomotives, following the London Midland Region practice of having a prominent cast-iron plate on the smokebox door. Numbers on the cab and bunker sides will remain in the present size and colour until a standard design of figure is evolved. It has been arranged for Western Region locomotives to retain their present numbers, which will avoid scrapping the side number plates used on that system—the only one of the former groups to show locomotive numbers on the cab, tender, and bunker sides by means of plates. Numbers between 1 and 69999 will be carried by all locomotives at present in service and those under development. Future standard types of locomotives will be numbered from 70000 onwards. Numbers allotted to certain diesel locomotives will indicate their horsepower rating.

Adoption of this numbering system will see the abandonment of the letter prefixes indicating the region which have appeared already on many locomotives since January 1, recalling a similar temporary expedient adopted at the time of grouping. Viewed as a whole, the scheme provides mainly for the locomotive number to indicate its region, in a similar manner to

the addition of selected figures to show the pre-grouping ownership of L.N.E.R. and Southern Railway locomotives. As far as can be seen, it will be possible for the regions to allocate their blocks of numbers among their locomotives in such a way as to group classes or wheel arrangements consecutively, and definite provision for this has been made in the main scheme by allotting blocks of numbers individually to the Southern Region "Q1," "West Country," and "Merchant Navy" classes. The amount of information that can be conveyed to operating staff by a locomotive number is a recurrent topic of debate, and we reported an interesting contribution to the question in an article last week describing the system adopted recently on the Malayan Railway.

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Poor Quality of Locomotive Coal

AN article in our March 12 issue showed that the British Railways were paying an exorbitant price for coal which falls below the pre-war standard for locomotive purposes. It was suggested that the question of locomotive coal supply should be investigated at once. The case for immediate inquiry is strengthened by some remarks made by Lord Hyndley, Chairman of the National Coal Board, to a press conference on March 18. He is reported by *The Times* as saying that a large part of the 16 million tons required for export and bunkers this year had got to be really good coal. The time had passed when overseas clients were glad to have any kind. Some countries were paying more attention to special types of coal suitable for their particular needs. To meet these demands the industrial consumer might have to be robbed to some extent of the better types of coal and the deficiency made good with less attractive qualities.

Hitherto, Lord Hyndley has claimed that the National Coal Board was alive to the need for improving the quality of much of the coal delivered to large industrial consumers. It is too bad that he should now threaten to lower the grade of coal supplied to our home industries and give preference to traders abroad. That would be a glaring misuse of the powers of monopoly which the Board is expected to exercise in the national interests, and we hope it will be wise enough to drop the idea of exploiting long-suffering customers at home.

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London Passenger Transport Board

THE report of the London Passenger Transport Board for the year ended December 31, 1947, appears after the undertaking has passed to the London Transport Executive, and the occasion is taken, therefore, to review the span of the board's existence from 1933-1947. At the beginning of its life, the population of the London area was growing rapidly, and although there was some decline during the war on account of the exodus from the built-up areas, by the end of 1947 the level of the population as a whole had been restored to a large extent. The total at the end of 1947 in the London Transport area was 9,667,000, but there had been a considerable redistribution of population, the number of people in the County of London area being still 600,000 below the pre-war figure. In the remainder of the built-up area, and in the outer country zone, the numbers were considerably larger than before the war, with the result that the total population was only 200,000 less than in 1939. It is shown, however, that in spite of these figures, the amount of travelling done by Londoners both in 1946 and 1947 was 30 per cent. above the 1939 level. Passengers travelled 11,334,318,000 miles in 1947, an increase of 2,686,000,000 over 1939. This is accounted for in part by the fact that average passenger journeys today are considerably longer because of the outward movement of population since 1939. It is considered that this greater volume of travel is likely to be a continuing phenomenon.

To meet the demand, the board increased its services in every way possible, but it is acknowledged that there is an urgent need for more vehicles, particularly buses, to meet the present traffics. Without new vehicles, the report states, no increase in the standard of service on the necessary scale is possible. During the year, London Transport vehicles ran nearly 611,000,000 miles, which was the greatest mileage in their history. Buses ran 12,000,000 more miles and underground trains 11,000,000 more, the underground services at the end of the year being no less than 20 per cent. greater than pre-war. The route-mileage of electric railways run over by underground trains increased from 178 to 208. During 1947, two further sections of the eastern extension and the first stage of the western extension of the Central Line, which forms part of the original New Works Programme, 1935-40, were brought into service. On May 5, these services were extended eastwards from Stratford to Leytonstone, and on December 14 they were projected over the then L.N.E.R. lines as far as Woodford. Westwards, the Central Line was extended from North Acton to Greenford on June 30, and the new White City Station, replacing Wood Lane, was opened to the public at the end of November. Delivery of 143 new surface line railway cars was to have begun in 1947, but now is not likely to take place before the latter part of the current year. Authority was obtained at the end of the year to order a further 90 new surface line cars; to modify 86 existing cars; and to purchase 89 new tube cars and modify 44 existing cars. The new stock will be used to strengthen services on the District Line, particularly to Barking; on the Piccadilly and Northern Lines; and on the Central Line extensions.

The report records an increase in rush-hour congestion during 1947, arising from further reductions in hours of work and a consequential increased standardisation of hours. The scheme to stagger working hours in the central area of London, which was launched by the Minister of Transport in 1946, has made progress. Up to the date of writing the report, adjustments had been made in the hours of 74,000 workers, a substantial proportion of whom were returning home before 5 p.m. or after 6 p.m. The object of the scheme was to effect a reduction of 120,000 in the number of workers travelling during the evening peak period between 5 p.m. and 6 p.m. Appreciation is expressed of the valuable collaboration of the local transport groups and their leaders in their negotiations concerned with the staggering of hours.

A summary table of financial results shows net revenue for 1947 of £4,656,639, received after giving effect to the estimated operation of the financial arrangements with the Government and in respect of the control of undertakings of railway companies and the board. A sum of £4,719,530 was available for appropriation, comparing with £4,695,825 in the previous year. These results and the allocation of the funds available are shown in the table below:—

	1946	1947
	£	£
Net revenue	4,656,639	4,656,639
Profit on realisation of investments	23,952	—
Transfer from London Transport "C" stock interest fund	15,234	23,843
Adjustment consequent on provisions of the Transport Act, 1947	—	39,048
Total available for appropriation	4,695,825	4,719,530
	Per cent.	Per cent.
Interest on London Transport "C" stock ...	3	3·180066

The year 1947 saw record travel on the central buses, the number of journeys growing by nearly 200,000,000, or 9 per cent. There was a slight decline compared with the previous year on the trams and trolleybuses, although the number of passenger journeys was some 60,000,000, or 5 per cent., higher than pre-war. Country buses showed a decline from the exceptionally high level of passenger journeys in 1946. Green Line coaches, which had their first full year of operation since the war, showed a reduction of 21 per cent. in the volume of mileage compared with 1938-39, but the traffic surpassed the level reached before the war by 4 per cent.

At the present time, work is proceeding as fast as resources permit on further sections of the Central Line extensions and the electrification of the former L.N.E.R. line to Shenfield. Of the remaining works included in the 1935-40 programme, the only ones being carried out at the time of writing the report were certain improvements which will enable the service on the Uxbridge line to be increased. A resignalling scheme to increase the effective capacity of the Piccadilly Line has been approved, and improvements to the signalling at Liverpool Street on the Central Line are being carried out with a similar object. A beginning has been made with converting the Neasden generating station to oil firing. One boiler was completed and brought into service at the beginning of 1947, and a second boiler was placed in commission in January this year. It is planned to complete the remaining four boilers and provide the necessary fuel supply installations during the current year. During 1947 there was a saving in coal of 33,000 tons.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Simplification of Railway Services

The Railway Club,
57, Fetter Lane, E.C.4. March 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Mr. P. M. Brooke-Hitching, in your March 12 issue, flatteringly attributes to me a knowledgeability which I expressly disclaimed in my letter in your issue of February 20, by saying that I put forward my suggestions with the knowledge that actual working conditions might veto them.

It is a matter partly of fact and partly of conjecture, whether the traffic now existing and estimated for the future would justify the maintenance of three tracks between Lydford and Plymouth; and possible temporary emergency conditions at Dawlish surely would be only a minor factor in arriving at a decision on this point.

I do not agree that the restoration of the pre-1890 conditions of a single track between Lydford and the junction near Marsh Mills amounts to "the virtual closing down of the Okehampton line to Plymouth." Whatever may be the virtues of Friary Station as a carriage shed, its geographical situation is not a happy one for a Plymouth passenger station. My suggestion included the possible restoration of Devonport (Southern Region) to its pre-1890 terminal status.

Yours faithfully,
KENNETH BROWN

The Franco-Crosti Locomotive

4, Temple Fortune Lane,
London, N.W.11. March 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the issue of December 26 last, a description and drawings were given of a boiler fitted with the Franco-Crosti fresh water heating device. In 1940 these boilers were put on to five locomotives of the Italian State Railways belonging to Class "685," a 2-6-2. During the years 1941-3, these engines showed a 18·93 per cent. fuel economy compared with unreboilered locomotives working on the same duties.

News has been received from Italy of further Franco-Crosti developments last year, including modifications to the preheater drums. Designs have been prepared for the rebuilding of several standard Italian State Railways types. Included are a fresh design for the "685" class, as well as proposals for the "625" class, a 2-6-0; "735" class, 2-8-0 of American 1917 design; "740" class, 2-8-0; and "746" class, a four-cylinder compound 2-8-2. Work is proceeding on the conversion of some of these types at the moment.

Another interesting proposal has been prepared for the Roumanian State Railways for the conversion of a 0-10-0 of the former "G10" class. Many of these locomotives are still at work in Germany and France, as well as other countries of Europe.

The two preheating drums for the new "685" class design have been reduced in size, now giving a heating surface, together, of 1,043 sq. ft. Each drum has 88 tubes in a 2-ft. 3½-in. barrel, compared with the former 109 tubes in a 2-ft. 9-in. dia. barrel. As was noted in the correspondence columns for January 9, the preheaters of the 1940 rebuilds suffer to some extent from inadequate arrangements for washing out. Profiting from experience gained, all new preheater drums will be modified. Extra mudholes will be fitted with a blowdown valve at the lowest point. Further, the nests of tubes are arranged so that they may be withdrawn bodily from the drums, complete with tubeplates, if it is desired to clean them thoroughly.

So far the locomotives which have carried a Franco-Crosti boiler have retained their original boiler barrel, which has been altered in accordance with the theories of heat transmission on which the Franco-Crosti system is based. However, a design has just been prepared in which the original boiler is replaced entirely by a new one on the Franco-Crosti lines. This proposal is for a 4-6-0 of the 1401-1450 series of the Madrid-Saragossa-Alicante section of the Spanish railways, and is shown in the accompanying drawing.

The new boiler is pitched 1 ft. 1½ in. higher than the original, but has a diameter of 5 ft. 2½ in. as against 5 ft. 10 in. Consequent on this, it has been possible to arrange the preheater drums side by side underneath it, instead of flanking the two sides of the barrel. The comparative dimensions of the unrebuilt and the Franco-Crosti locomotives are as follow:

	Franco-Crosti	Original
Boiler pressure, lb. per sq. in.	199	199
Grate area, sq. ft.	47·2	49·1
Distance between tubeplates	15 ft. 9½ in.	15 ft. 9½ in.
Small tubes, No.	84	214
Small tubes, dia.	2⅝/2¼ in.	1⅞/1¾ in.
Superheater tubes, No.	26	26
Superheater tubes, dia.	6·5⅜ in.	5¼/4⅝ in.
Firebox heating surface, sq. ft. ...	161	177
Tube heating surface, sq. ft.	1,462	2,198
Total heating surface, sq. ft.	1,623	2,375
Superheater heating surface, sq. ft. ...	564	630
Preheater—		
Heating surface, sq. ft.	1,260	—
Exhaust steam heating surface, sq. ft. ...	114	—
Cylinders, dia.	24⅜ in.	24⅜ in.
Cylinders, stroke	26 in.	26 in.
Driving wheel dia.	5 ft. 3 in.	5 ft. 3 in.
Weight in working order	90 tons 4 cwt.	85 tons 4 cwt.
Tractive effort at 85 per cent. b.p.	41,588 lb.	41,588 lb.

It is to be hoped that figures will be published in due course of the results obtained by the latest Franco-Crosti locomotives, as the originators are claiming a possible economy of fuel up to 25 per cent. compared with a locomotive with a normal boiler.

Yours faithfully,
P. M. BISHOP

The Dufferin Bridge, Benares

Longworth Manor,
nr. Abingdon, Berks. March 14

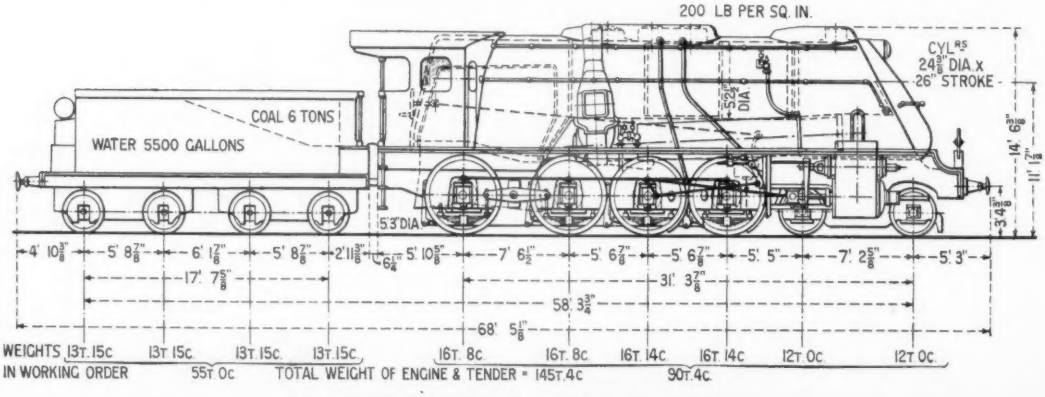
TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The Engineer of the Dufferin Bridge over the Ganges at Benares, the regirdering of which was the subject of an article in your issue of March 12, was my father, the late F. T. G. Walton, C.I.E., M.Inst.C.E., and some particulars from his diary may be of interest.

Work on the bridge was started on January 19, 1882. Its length is ¾ mile, and there are 16 spans. The river bed was of pure sand of unknown depth, over which the level of water during the cold-weather months was about 37 ft., rising during floods to 92 ft., with a velocity of about 20 ft. per sec.

The bridge was opened on December 16, 1887, by the Viceroy, Lord Dufferin, who referred in his speech to the fact that Mr. Walton's father had been the instructor of his earliest youth.

A leading article in an Indian newspaper described the



Franco-Crosti locomotive designed for Spain

Dufferin Bridge as "one of the most stupendous and magnificent of the many triumphs of engineering science which English capital, skill, and enterprise have scattered over India." The scene of Rudyard Kipling's story, "The Bridge Builder," was at Benares during the construction of this bridge.

The girders have thus stood the test of time and increasing rail and road traffic for some 60 years.

Yours faithfully,

G. WALTON,
Colonel, late R.E.

The Railway Executive

Essex. March 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was interested in your clear exposition of British Railways organisation; I doubt if any region can claim so little "disturbance in day-to-day work" as the Eastern Region. It is common knowledge that the L.N.E.R. practice regarding executive salaries was more in line with that of a light railway than a main line: nothing has changed fundamentally. The disparities between E.R. salaries and those of other regions have merely been widened, but the unmoral grounds on which they previously were "justified" have been modified to reflect the altered conditions.

The L.N.E.R. attitude was based on its area organisation; now it is founded on the absence of maxima for the posts under nationalisation. Is it too much to hope that, through the agency of your columns, the "open and inquiring mind" to which you refer editorially might apply itself to this obvious opening for standardisation?

Yours faithfully,

B. JUST

Standard Gauge for Africa

25, Headstone Road,
Harrow. March 8

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—There are two letters in your issue of March 5 on which I should like to comment.

First, that of Colonel Cantlie on the "Livery of British Railways." I entirely agree with him as regards the waste of labour and materials in painting "British Railways" in full on tenders and tank sides. For one thing, to what organisation other than British Railways could engines or coaches belong, except perhaps to London Transport? But that authority already has its name on all its stock, and therefore no repainting is necessary. I have no idea of current costs in Britain of lettering, but if it were only 6d. per letter, that would be 15s. per locomotive, or something like £10,000 for the total British locomotive stock.

I quite agree with good painting as an aid to morale and an incentive to cleanliness, but it does seem to me that, to label every engine "British Railways" is unnecessarily wasteful and unimaginative.

My second comment is on the letter of Mr. Husbands *re* "Standard Gauge for Africa," and I would like to present another point of view. In the first place there is, I think, little dispute that the metre and 3 ft. 6 in. gauges are the most economical in the world for freight haulage, for it is only on these gauges that one can get a load-to-tare ratio as good as 3 to 1. On the wider gauges, 4 ft. 8½ in., 5 ft. 3 in., and 5 ft. 6 in., axles, wheels, axleboxes, springs, etc., all have to be so much larger and heavier that very rarely can a ratio better than 2·2 to 1 be obtained.

The difference in cost between 3 ft. 6 in. and standard gauge is, I am sure, far more than the 10 per cent. estimated by Mr. Husbands. Sleepers, for instance, cost approximately twice as much for 4 ft. 8½ in. as for metre or 3 ft. 6 in. gauges, and at, say, 2,200 to the mile, that alone is no small item; and the cost of converting Africa's existing 3 ft. 6 in. gauge railways to standard would be appalling.

Curves in yards require more room for the wider gauge, with the result that yards would have to be enlarged, and in many parts of mountainous regions, complete relocation would be necessitated. Almost every feature of the wider gauge involves greatly increased capital expenditure. Even in Britain, with its intensive traffic, we have seen the difficulties of railways in finding the interest on their capital, but on overseas railways, which have nothing like so great a traffic density, capital expenditure must be kept to an absolute minimum if the railway is not to have a millstone round its neck all its life.

It is conceded that the metre and 3 ft. 6 in. gauges cannot attain such high speeds as the 4 ft. 8½ in., but how often in Asia or Africa is a speed exceeding a mile a minute necessary or desirable? The tempo of life in those countries is (fortunately) not so hectic, and speeds of 50 m.p.h. are in most circumstances fully adequate. Indeed, much higher speeds on unfenced lines, with the danger of collision with herds of wild animals, or in places subject to sudden washouts, are not desirable.

The South African Railways have shown what can be accomplished on the 3 ft. 6 in. gauge. They have engines more powerful than any on the home railways, or on the 5 ft. 6 in. gauge in India—the 4-8-2s of 47,800 lb tractive effort, and the class "GL" Garratts, the most powerful steam locomotives outside the North American continent—and their passenger trains run up to 55 m.p.h.

On the metre gauge in Burma, we had, pre-war, a fast goods service which accomplished the 383 miles from Malagon (Rangoon) to Mandalay, 210 miles of which were single line, in 23 hr. and often arrived an hour before time. These trains loaded up to 1,100 tons behind the tender, and were fully vacuum-braked throughout. They were hauled by the standard "YD" class 2-8-2 engines of 22,000 lb. tractive effort and 10-ton maximum axle load on a coal consumption of about 69 lb. per mile, if I remember right. Such services on 3 ft. 6 in. and metre gauges show that these gauges can serve adequately countries where the very highest speeds are not essential.

Even on the 5 ft. 6 in. gauge in India, the maximum speed allowed nowhere exceeds 60 m.p.h., because the cost of making such a wide gauge fit for higher speeds would be absolutely prohibitive.

Let us be thankful that so much of the African continent is covered by the 3 ft. 6 in. gauge. Let us not saddle the countries with a millstone of capital, on which they could never hope to pay the interest, but rather concentrate on standardising so useful and economic a gauge.

Yours faithfully,

E. V. M. POWELL, M.I.LOCO.E.,
Chief Operating Superintendent (on leave),
Burma Railways

Livery of British Railways

64, Martyrs' Field Road,
Canterbury. March 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have read Mr. Latham's letter in your issue of March 12. I cannot agree with his contention that the omission of the title "British Railways" from rolling stock might be interpreted as showing lack of pride in such stock. If Mr. Latham owned a nice, shiny, new motorcar, I am sure he would feel very proud of it. I am equally sure that he would not put his name in large gold letters along both sides of the bonnet because of that. Further, nobody would accuse him of lack of pride of possession for not doing so.

It will be noticed that these words are omitted from passenger and goods rolling stock. Freshly-painted passenger coaches now have only the serial number visible on the outside, with no name or initial; and it is only on locomotives, which are always the centre of attraction, that the words "British Railways" appear. These two facts support my claim that such lettering is not necessary, and is in fact put on for show purposes only. *If* any sort of monogram or designation is needed, then, since the railways are now national property, I suggest that the appropriate one would be the Royal Cipher, as seen on other national property, such as Post Office mail vans. This would serve at least to show their public ownership. (Now watch somebody quibble over *that* remark!)

With regard to my "standard of cleanliness," it is an unfortunate fact that one can see dirty engines in so many places today that it seems very unfair to single out one or two places for special mention. Even the Southern, whose standard of cleanliness is second to none, has its murky spots. I have not noticed any improvement such as Mr. Latham has seen, but I join with him in hoping "that this movement will continue."

Yours faithfully,

ARTHUR G. WELLS

TRAVEL CONCESSION FOR OVERSEAS VISITORS.—In reply to a question in the House of Commons on March 23, Mr. Harold Wilson, President of the Board of Trade, stated that tourists bringing their own cars to this country or buying cars for subsequent export, would be entitled to an increased petrol allowance and also be able to travel freely in hired cars. For the first fortnight of their stay they would receive sufficient petrol to take them from their port of arrival or the place of delivery of the car to their furthest destination and back to their port of embarkation, plus sufficient petrol for 600 miles of motoring. A further allowance would be made sufficient for 400 miles during the remainder of the first month. On application, allowances for the second and third months of sufficient petrol for 300 miles a month would be issued. These arrangements will operate as from May 1 and visitors who are already in the country will benefit.

The Scrap Heap

Government Advertising Cost Nearly £3,000,000

A total of £2,948,000 was spent in Press and poster advertising by Government departments in 1947, compared with £2,162,000 in 1946, and £1,190,000 in 1945. These figures were revealed in Parliament last week. M.O.I. and C.O.I. (including repayment services): 1945, £709,000; 1946, £973,000; 1947, £1,675,000. H.M. Stationery Office (costs of paper and printing for posters): 1945, £60,000; 1946, £96,000; 1947, £100,000. National Savings Committee: 1945, £523,000; 1946, £462,000; 1947, £530,000. Ministry of Food: 1945, £481,000; 1946, £435,000; 1947, £338,000. Other departmental advertising (including classified Press sections): 1945, £137,000; 1946, £196,000; 1947, £305,000.

These figures, it was stated, did not include expenditure on overseas advertising by the M.O.I. and C.O.I., or the overseas departments. All figures included a percentage allowance for staff costs.

* * *

Criticism of London Transport

At 8.15 this morning an *Evening Standard* photographer visited main-line stations to record the holiday scene. He found them practically deserted.

No doubt many people wished to get away to the sea or country early. But they quickly discovered that London Transport's idea of a Bank Holiday service barred the way.

On all underground lines and most bus and tramcar routes, only the ordinary Sunday services were available. Thus, for instance, the first train by which the citizens of Pinner could travel to London left at four minutes past eight, the first train from Hampstead at 7.45.

Deprived of basic petrol by the Government, holiday-makers have been forced off the roads and into the buses and tubes. They had a right to expect better service. All London Transport can offer as a last-minute concession is the usual weekday service of late trains to-night.

The capital is plastered with posters boasting that London Transport is at London's service. But London Transport, along with the four main-line railways, has now passed to the control of the mammoth Transport Commission. Does today's showing mean that London Transport intends to allow a falling off in the high standard of service it generally gives? The public must be on the alert. They are the owners; they must keep their servants up to scratch.—*From the "Evening Standard" of March 29.*

* * *

100 YEARS AGO

From The Railway Times, *April 1, 1848*

TO CONTRACTORS.—EAST AND WEST-INDIA DOCKS AND BIRMINGHAM JUNCTION RAILWAY COMPANY.—The Directors of this Company are prepared to receive TENDERS for the execution of the works on that part of the line which extends from Dalston-lane, in the Parish of Hackney, to the King's-road, in the Parish of St. Pancras; being a distance of about three miles.

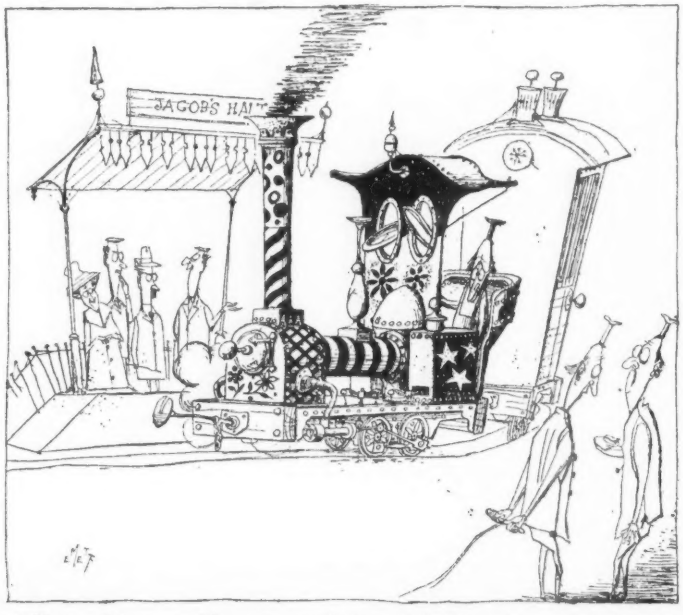
Drawings and specifications may be seen at the Company's offices, 12, Old Broad-street, London; and sealed Tenders, according to a form, must be delivered to the Secretary, at the offices, on or before Three o'clock, on Thursday, the 27th day of April next, when the Directors will meet to open the same.

The Directors do not bind themselves to accept the lowest tender.

By order,
HARRY CHUBB, Secretary.

London, 12, Old Broad-street,
22nd March, 1848

Authorised on August 26, 1846, from the goods station of the London & North Western Railway, at Camden Town, to the West India Docks, and intended mainly for goods traffic, this railway became the North London Railway on January 1, 1853, and was developed successfully as a passenger line. For several years, the N.L.R. trains used Fenchurch Street Station, but the extension from Dalston to Broad Street was opened on October 31, 1865. The L.N.W.R. took over the working of the railway on February 1, 1909, and complete amalgamation followed on January 1, 1922.



"None of 'em could make up their minds how they wanted their engine painted"

[Reproduced by permission of the proprietors of "Punch"

LONDON LAUGHS (No. 4,129) *By* LEE

"Gives one a kind o' quiet, spiritual satisfaction, don't it, Bill, having OWNERS to shove around now"

[From "The Evening News"

Groping in a Verbal Fog

Puffington is having a hard time of it. If he is not suspected of traitorous inclinations and hastily tucking away his copy of "Marxism for the Muddle-headed" before the arrival of Chuter Edes Cheka, he is being harassed for his use of English.

Poor Puffington is far from being a lord of language. He is a jargon-merchant, and he wuffles. He says (as an M.P. remarked a night or two ago) "implement" when he means "fulfil." He announces a thing as "being in short supply" instead of "scarce." He even advises a miner to make a "constructive and flexible approach to the problem of production."

The author of that last piece of verbal Gorgonzola deserves a big, crunchy biscuit. He and his kind have lost themselves in a cotton-wool fog of words. Hewing coal, for example, demands a pick, skill, and strength; not a bucketful could be brought out of the earth by that flabby ragbag of words.

Though Puffington has every reason for shame, politicians are just as guilty. Here is a tit-bit from a piece of fervid prose about the international situation: "Nothing will stand (against Communism) but a courageous Socialism which preaches without apology its championship of civil rights and its equal determination to master and direct the economic resources at its command."

With a tan-tan-ta-ra, but what does it *mean*?

That, of course, is a nasty, wounding question. Words, after all, can be flaming swords. Supposing Mr. Churchill, instead of offering blood, toil, tears, and sweat, had said: "In certain eventualities, a maximum overall industrial output would be desirable, concurrent with a contingent expenditure in personnel, some perspiratory wastage and, should circumstances appear to demand it, a certain lachrymation"?

The naval commander's report to General Eisenhower as D-Day opened was: "The Royal Navy is in good heart."

Can that be put into official jargon? The answer is that strong, noble thoughts and deeds demand strong, clear words. And sloppy thinking gets sloppy phrasing.—*From "The Evening News."*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Locomotives from Canada

Twelve locomotives and some refrigerator wagons have arrived from Canada in the *Empire Wallace*, which suffered severely from a mid-Atlantic cyclone. Many of the wagons were badly smashed, one was lost overboard; and several of the locomotives were damaged, though some of these are now in service.

Bravery Awards to Africans

At a recent public function on Bulawayo Station platform, the General Manager (Sir Arthur Griffin) presented awards to four African employees in recognition of their services when the engine of a mixed train plunged into a washaway on the West Nicholson branch on January 2. One of the Africans extracted the driver and fireman at great personal risk. The official citation concluded: "The example of service set by these African employees is one worthy of the highest traditions of the railway service."

CEYLON

Independence Celebrations

Great crowds were attracted to Colombo and Kandy by the presence of the Duke and Duchess of Gloucester and the many representatives from 26 countries participating in the opening of Parliament and its attendant celebrations. Ten special trains had to be run from suburban and provincial areas to Colombo, and on the night of the illuminations another series of specials was run from 11.15 p.m. to take the crowds home from Colombo. On the two nights of the firework display at the Galle Face Green and the Perahera in Colombo, the numbers travelling by train have been estimated at over 150,000.

The Colombo Fort railway station was a centre of attraction, with its illuminated Lion Flag giving a realistic impression of waving in the breeze, and an illuminated outline of an engine with wheels that appeared to revolve.

INDIA & PAKISTAN

Measures against Ticketless Travel

During the course of his budget speech, the Indian Minister for Transport, Dr. John Matthai, stated that the railways had started a campaign against ticketless travel in the United Provinces, where the problem was particularly acute. Seventeen platoons of police and 34 special railway magistrates had been employed to assist railway authorities in apprehending ticketless passengers and trying them on the spot. The whole cost of this establishment was to be borne by the railways. The scheme had been introduced on January 15 and the results so far had been encouraging. Similar arrangements were contemplated for West Bengal, Bihar, and Assam.

As ticketless travel continues on a large scale on the Pakistan railways also, the Governor-General of that Dominion has amended the law so as to shift the burden of proof that there was no intention to defraud from the railway administration to the accused person. Under Section 112 of the Indian Railways Act, 1890, which is applicable both to India and Pakistan, conviction could not be obtained in a court of law unless the railway administration could prove that a ticketless traveller had deliberate intention to defraud the railway. Section 113 of the Act also has been modified, with the result that ticketless passengers, where there is any doubt as to the station from which they started, shall be liable to pay the prescribed excess charge *plus* ordinary single fare from the station from which the train originally started instead of the station where it was last checked. Punishments under these two sections have been increased to three months' and one month's imprisonment.

UNITED STATES

Chicago-Los Angeles Services Increased

Delivery of new passenger vehicles has permitted the service between Chicago and Los Angeles by the "Super Chief" and "El Capitan" streamline diesel trains of the Santa Fe to be increased from alternate days to daily journeys as from February 29.

C. & O. Coalfields Extension

A 14-mile extension from Jenkins, Kentucky, to serve new coalfields in Wise County, Virginia, was opened by the Chesapeake & Ohio on February 29. The line crosses the border between Kentucky and Virginia in a tunnel 3,622 ft. long through Pine Mountain.

Gulf Coast Hurricane Damage and Repairs

The hurricane last September in the neighbourhood of the Gulf of Mexico caused damage to property owned by the Louisville & Nashville Railroad to the extent of some $3 million. From Mobile to New Orleans this line closely follows the Gulf coast, and it was the 40-mile length of this section between Waveland and Gentilly, near New Orleans, that bore the brunt of the storm. The track was put out of action almost throughout this length, mainly by high water, driven by the wind, burying the track with swamp grass and other débris to a depth of from 2 to 5 ft. at many points. At other places the track was washed 20 to 100 ft. off the formation, and the ballast was washed away from under the track. For long distances the formation itself was scoured out to depths down to 7 ft.

Destruction of Bridges and Viaducts

Bridges and trestle viaducts also were damaged seriously. Pearl River Bridge had seven deck girder spans and their supporting pile-bents wasned away, and other damage. The trestle viaduct over Bi'oxi Bay had 346 trestle panels more or less seriously wrecked, and a very similar amount of damage was also done at Bay St. Louis Viaduct. Buildings, signals, telephone, and telegraph lines were also out of action.

Rapid Repair Work

The damaged bridges held up repair work, but most of the length was accessible to floating plant, and permitted a beginning to be made at many points. The formation was repaired with bulldozers and crawler cranes, but not fully, as the material available was unsuitable except for constructing a low-level bank; the track was raised on ballast later.

Lack of sufficient timber, however, delayed bridge repairs, and the original material had to be salvaged as far as possible. Pile trestles were built to replace the seven girder spans at Pearl River, but it was a difficult job owing to the strong current and depth of water—in some places over 50 ft. This was the last work to be completed, one month and three days after the disaster. The line was reopened just five weeks after the hurricane.

ARGENTINA

Administration of Former British Railways

The Argentine Government is expected shortly to issue a Decree laying down the future administrative machinery for the British-owned railways which were taken over on March 1. The Resident Board and local boards of the British companies, of course, will disappear, and the legal and commercial representation laid down by the agreement of February 13, 1947, will come into being. This will have Mr. R. Montgomery, late Chief Accountant of the Buenos Aires Great Southern and Buenos Aires Western Railways, as Chairman; and Dr. G. Cortés Funes as Deputy Chairman & Legal Member. All technical and administrative British-born staff have been offered five-year contracts, renewable for a further five-year period, with enjoyment of existing privileges. (See also *The Railway Gazette* of March 14, 1947).

New Argentina-Bolivia Railway

The Joint Argentine-Bolivian Committee in charge of the construction (begun in May, 1944) of the new railway from Yacuiba (Argentina) to Santa Cruz de la Sierra and Sucre (Bolivia) has just issued a report on the progress of the work, which is being carried out under the supervision of the Argentine State Railways.

On the Yacuiba-Santa Cruz line, earthworks have been completed for 360 km., and are in progress over a further 70 km. Clearance of the ground has been carried out over 428 km.; 3,400,000 cu. m. of earth have been removed and 21 buildings erected to date. On the line from Tarabuco to Boyuibe, earthworks have been completed over 42 km., and a further 33 are in the hands of contractors.

The total cost of these lines, including station and other buildings, rolling stock, and equipment, totals ps. 112,000,000 which has been lent by the Argentine Government to Bolivia under the agreement signed between the two countries (see *The Railway Gazette* of August 2, 1946, and November 21, 1947).

Contracts were signed during 1947 in the United States for a total of 64,000 tons of rails, of which 36,000 12-m. units have arrived so far, these being sufficient to provide the necessary track as far as Taquipirenda (km. 220).

SWITZERLAND

Proposed Abandonment of Light Railway

According to recommendations in a recent report on the future of the 8·7-mile metre-gauge electric light railway connecting Thun with Beatenbucht, on the northern shore of the Lake of Thun, the line is to be scrapped and replaced by a trolleybus route.

The question of abandonment has become pressing in view of the obsolescence of the rolling stock and the line itself, which was opened to traffic as far as Interlaken (14·3 miles) in 1913. Early in the late war the 5·6-mile section between Beatenbucht and Interlaken was replaced by a bus service and the permanent way between the two places taken up.

The London Traffic Problem

Unless the Greater London Plan is amended to control population movements and factory-siting, London traffic congestion will deteriorate yet further

(By a Correspondent)

THE London traffic problem finds its origin in the spread of industries throughout the Greater London area; it was seriously accentuated by the further industrial expansion in the outer districts of the area between 1922 and 1939. In the last 50 years various remedies have been attempted for relieving the congestion, but every new facility provided has had the reverse result by attracting additional travellers and opening up new districts for development. The size of the problem and the rapidity of its growth are illustrated by the following figures for population increases:—

			% increase
Great Britain	1831	16,260,797	
	1946	47,175,000	190
Greater London ...	1831	1,903,572	
	1946	8,158,160	328
Kent	1831	399,485	
	1938	1,411,550	253·3
Surrey	1831	157,059	
	1938	1,427,300	808·7

The migration of the working population from the inner area began in 1860, when the first large demolition of residential small property to make way for surface railways took place. This operation indirectly led to the provision of cheap travel facilities for the displaced workers. To placate opposition on the grounds that the railway was destroying house property, a clause was inserted in the Act of 1860, authorising construction of the metropolitan extension lines of the former London, Chatham & Dover Railway from Ludgate Hill to Victoria, by which the company was compelled to provide cheap fares. Accordingly, the fare for the return journey of 6½ miles each way between Ludgate Hill and Victoria was twopence. The service, consequently, became known as the "penny train."

This displacement of population was largely responsible for the creation of the thickly populated suburbs of Walthamstow and Leyton. The development was also the origin of cheap workmen's travel. In the last decade, however, there has been an upward revision to put the service on a more economic basis, and whilst there are some very much lower fares, the average now is between a halfpenny and a penny per mile.

In 1946 the average distance per journey travelled by workmen on the main line railways was 9·72 miles, and the average receipt per workman-journey was 5·15d. Two hundred and fifty-eight million workmen's journeys, constituting 20 per cent. of the journeys of all travellers, were made in that year.

On the railways controlled by London Transport (surface, sub-surface, and deep level), 75 million workmen's journeys were made in 1946, representing 12½ per cent. of the journeys of all travellers. The average workman-journey was 7 miles, and the average receipt per workman journey 3·3d.

The crux of the London problem is the transporting of 2,777,117 insured workers, *plus* the professional and managerial classes, between their homes and their workshops or offices, the movement of these people being concentrated in a few hours at the beginning and end of the working day. Eight per cent. of the insured workers are engaged in the transport of the remainder. London Transport estimates that on all forms of transport nearly 600,000 people leave the centre of London on their homeward journey between 5 and 6 p.m. daily. The Southern Region in 2½ hours morning and evening transport moves more than half a million passengers in and out of London. This is claimed by Mr. John Elliot, Chief Officer of the Southern Region, to be the greatest mass of people in the world to be moved in such a short space of time.

On the railway and highway transport services provided by London Transport in the London Transport area (excluding main-line railways), 450 passenger journeys per head of population are made annually, the average journey being 2·6 miles. As no data of journeys on the main-line railways in the same area are available, it is impossible to give the total numbers of journeys made per head of the population in the area.

Attempted Remedies for Congestion

Two major attempts have been made to relieve this travel pressure. Sub-surface railways in brick tunnels and deep-level railways in cast-iron tubes were built in the inner area. This form of construction proved expensive, although land did not have to be purchased for the deep-level tracks. Unfortunately, the latter form of transport when planned early in the 20th century was not conceived on imperial lines, and the tubes (11ft. 8 in. dia.) and rolling stock, being of diminutive dimensions, cannot now cope with the enormous volume of passengers using them. Further, the congestion on these tubes in the inner area has been aggravated by the London Transport policy of pushing out its system into the outer suburbs in rivalry to the main-line suburban systems. The tube trains are of low carrying capacity (some of them being six-car trains seating only 240 passengers) compared with the steam trains and the larger Southern Electric trains (1,150 seats), with the result that instead of improving the congestion, conditions have become worse than those which previously existed on the L.N.E.R. suburban routes, for instance.

In the past 30 years two of the railway companies operating surface railways in the London area have also attempted to relieve congestion on their suburban steam-hauled trains. The L.M.S.R. (then L. & N.W.R.) electrified its tracks from Broad Street and Euston to Watford, Kew, and Richmond, adopting spacious rolling stock suitable for carrying a large traffic in comfort. These services are not overloaded and their frequency could be stepped up.

The Southern Railway, after the grouping in 1923, embarked on a thoroughgoing electrification of all its suburban lines, subsequently extended to the south coast lines. The services provided on the suburban lines are frequent, but the provision of the electric services accelerated the development of new outer suburbs at such a rate that the present peak hour travel, on the North Kent routes in particular, is very congested. This congestion has been alleviated to some extent by diverting some of the trains to alternative London termini where the pressure is less intense.

Observations have been made recently on railway traffic on the principal routes around London. The accompanying map shows the railway routes from the central area to the outer suburbs, which are denoted according to their traffic density. The congestion on the routes shown in a solid black line (*a*) is so dense that no additional loading should be superimposed on them without major improvements being made to the carrying capacity. The suburban trains on routes shown in black and white (*b*) are not at present overloaded. Routes shown in ladder lines (*c*) denote lines over which the existing train service could be increased to carry additional passengers for comparatively small expenditure on improving the capacity of the stations and tracks.

The correctness of the above classification is confirmed by the result of the operation of the London passenger traffic pool, the last (1946) percentage share of the traffics by the five members of the pool being as under:—

	Per cent.
L.P.T.B. (*a*)	62·1
G.W.R. (*c*)	1·3
L.M.S.R. (*a* and *b*)	5·1
L.N.E.R. (*c*)	6·0
S.R. (*a* and *c*)	25·5

Railway facilities catering for the volume of traffic in the Greater London area follow:—

Surface railways	Miles of route	No. of stations
G.W.R.	42	26
L.N.E.R.	130	116
L.M.S.R.	80	71
S.R.	266	212
Total	518	425
London Transport sub-surface and deep-level railways	125	170

The intention of this article is to point a warning against aggravation of this "intolerable situation in the Central Area" (L.P.T.B. Annual Report, 1946) by the further decanting of the population from the inner to the outer area without a concurrent transfer of work centres. If such a movement is not accompanied by the transfer of work, then previous consideration must be given to the transport problem created, for unless additional facilities are provided the resultant travelling congestion will become even more intolerable than it now is, staggering of hours notwithstanding.

The transport requirements of the new towns, the quasi-satellites, and the population of the reception areas under the Greater London Plan should, therefore, be closely investigated because the tendency has been unfortunately to locate these new settlements where rail facilities are already overcrowded, conspicuously inadequate, or even lacking. Cases in point are Dagenham, Becontree, Dagnam Park, Loughton, Hainault, and Avelev.

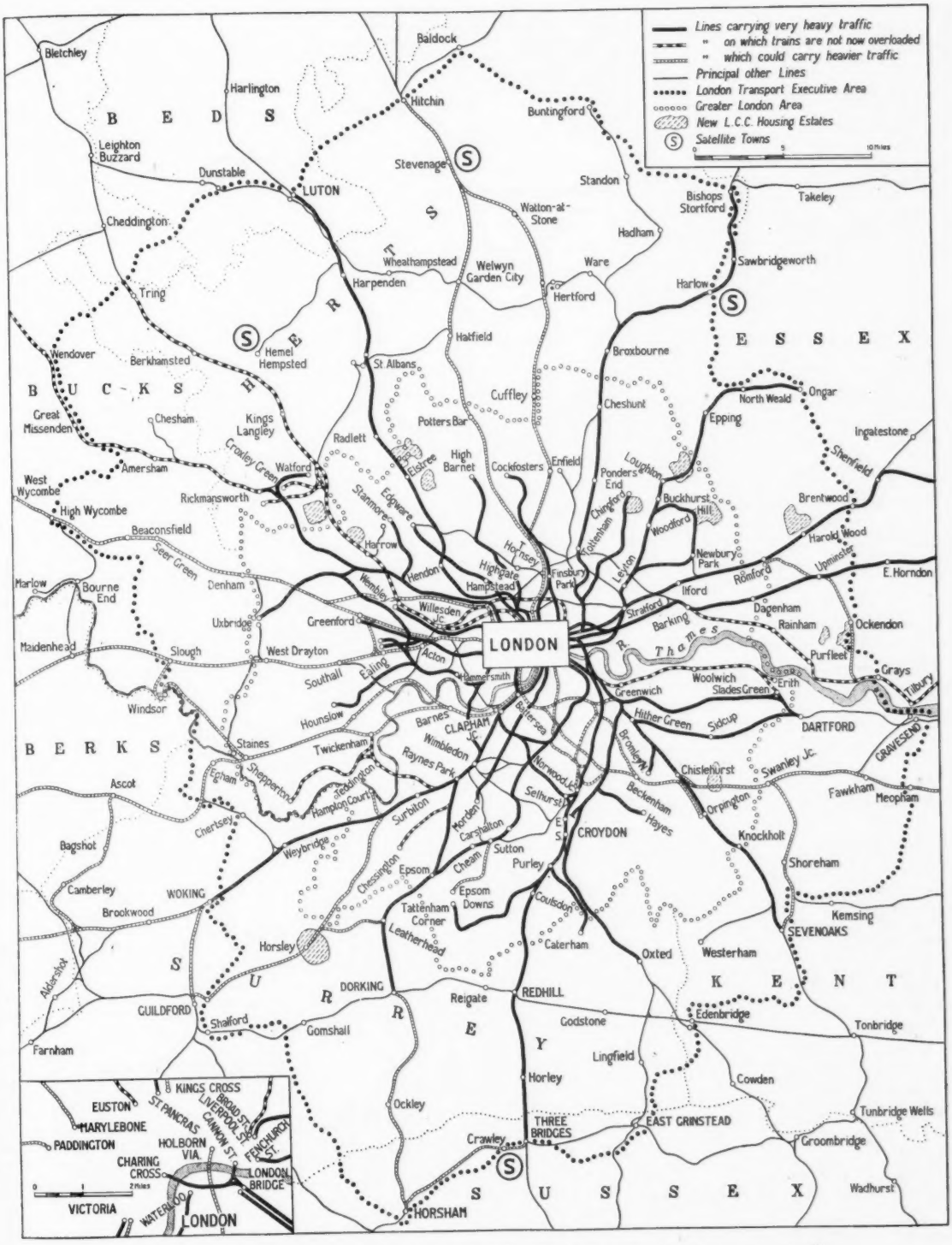
By December, 1946, according to the L.P.T.B. report already quoted, the civilian population resident in the London Transport area had risen to 9,450,000, which, although 400,000 below 1939, was already 100,000 above the ultimate population target for that area.

Suggested Short-Term Measures

In present financial conditions it may be out of the question to embark on an expenditure of £230 million to implement the proposals of the Railway (London Plan) Committee and an additional £200 million for other improvements in the London Transport area. But many improvements could be carried out to existing surface railway facilities at a tithe of the above cost, with marked relief to travellers, by additions to the railway operating equipment, such as automatic signalling, and a scientific adjustment of train schedules.

(Continued on page 404)

The London Traffic Problem

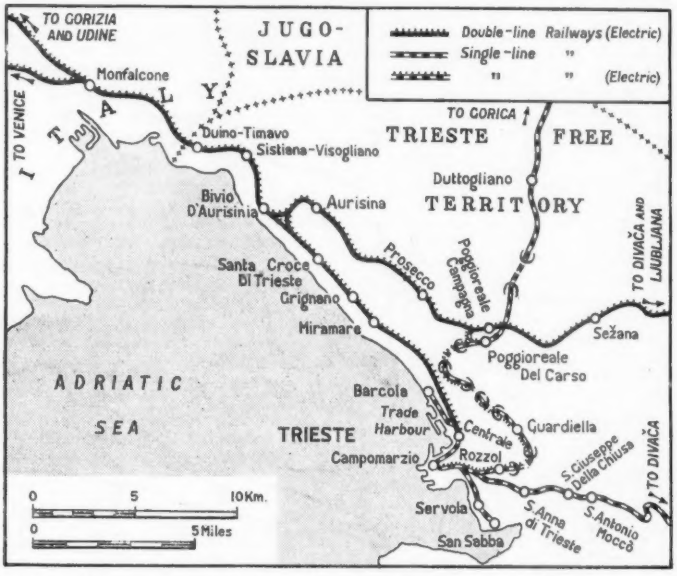


Railway routes in and around London depicted according to density of passenger traffic

The Trieste Railway System

With the establishment of Trieste Free Territory, a new railway administration has come into being

THE railway system of the Trieste Free Territory, which is 53 miles long, includes two double-track main lines and 5 miles of industrial line. The main lines, which form part of the Venice—Rijeka (formerly Fiume) line, were electrified when under Italian ownership. One of them connects Trieste Centrale with Monfalcone, the Italian frontier station, *via* Duino Timavo at the Triestine frontier; the other diverges just before Bivio d'Aurisinia to Sezana, the joint Triestine—Jugoslav frontier station on the route for Ljubljana, which is on the Belgrade—Salzburg line. The industrial section includes a 1·7-mile quayside line connecting the two termini, Trieste Centrale and Trieste Campomarzio.



The railway system of Trieste, showing boundaries between Free Territory, Italy, and Jugoslavia

Another connection with Jugoslavia runs from Trieste Campomarzio to Poggioreale del Carso (formerly Villa Opicina) by a 10-mile section of the former main line to Jesenice (Jugoslavia) and Villach and Klagenfurt (Austria). This line was electrified between 1942 and 1943. Poggioreale del Carso is itself connected by a short loop with Poggioreale Campagna (formerly Opicina Campagna), which is on the main line to Sezana. Another line from the same terminus covers the 9 miles to S. Elia and connects with Herpelje-Kozina on the Jugoslav Divaca—Pula line.

The industrial lines, besides connecting the two termini, run between Trieste Centrale and Barcola, and from a junction outside Trieste Campomarzio to Servola and San Sabba, an industrial area in which are situated shipyards, iron works, oil refineries and the Lloyd Triestino fitting-out basins.

The most serious damage the system sustained during the war was the destruction of the viaduct forming part of a double-track loop between Bivio d'Aurisina and Aurisina, which connects the main lines from Jugoslavia to Italy. The structure has not yet been rebuilt.

Gradients in the territory are severe, particularly on the two lines from Trieste Campomarzio. From Trieste Centrale, which is 10 ft. above sea level, the line rises to 548 ft. within 10½ miles, and reaches a height of 1,181 ft. at Sezana; the maximum height of the line to Italy is 443 ft. In the 10 miles between Trieste Campomarzio and Poggioreale del Carso the line rises from 10 ft. to 1,017 ft., mounting 466 ft. in the first 5 miles. The steepest gradient, however, is on the line to S. Elia, which climbs 266 ft. in the first 3 miles, reaching a height of 663 ft. in the next 2½ miles before the approach to the frontier, which is 1,191 ft. above sea level.

Italian State Railways fares and rates are being retained on the system pending introduction of a new tariff.

Swiss Federal Railways in 1947

Budget estimate of receipts exceeded in provisional results

WORKING receipts of the Swiss Federal Railways for 1947, at fr. 632,308,973, exceeded the total attained in 1946 by approximately 7·8 per cent.; but luggage, goods, livestock, and mail receipts showed a greater expansion (11½ per cent.) than passenger receipts (4·1 per cent.). On the other hand, the working expenditure rose by 11·3 per cent. as compared with 1946. The table below contains the official figures issued for 1947, although these are liable to revision.

	1946 fr.	1947 fr.	Approx. increase per cent.
Passengers	258,239,672	269,036,496	4·1
Goods, luggage, live-stock, and mails...	305,591,074	340,742,196	11½
Miscellaneous ...	22,679,517	22,530,281	—
Total ...	586,510,263	632,308,973	7·8
Working expenditure—			
Administration ...	7,707,327	8,748,399	12
Maintenance of lines	64,194,943	61,174,217	—
Station and traction services	150,625,595	167,013,356	11
Motive power and workshops ...	117,230,867	134,972,141	14
Miscellaneous ...	43,320,239	54,878,634	25
Total ...	383,078,971	426,786,747	11·3

The budget for 1947 envisaged working receipts of fr. 543,206,000, but, as shown above, that figure was much exceeded. Also, the working expenditure, conservatively estimated at fr.378,413,100, was exceeded to a considerable extent.

The increase in working expenditure has been due largely to the rise in cost-of-living allowances to staff in service and on the retired list; to the expansion in the number of staff; and to increased requirements of materials, stores, and electric power arising from intensified services, resulting in higher tear and wear on locomotives and rolling stock, and consequently increased maintenance. On the other hand, there was a decrease in expenditure on maintenance of permanent way.

During 1947 the traffic continued to expand, although the rate of increase in goods, luggage, livestock, and mail traffic was far less pronounced than between 1945 and 1946. In 1946 the total for these classes of traffic was some 25 per cent. above that attained in 1945, whereas the increase in 1947 amounted to less than 10 per cent. over 1946. Some official figures are shown below:—

	1945	1946	1947*
Passengers ...	204,883,108	206,446,023	212,607,049
Goods (metric tons)† ...	13,336,003	16,882,397	18,245,467

* Provisional figures
† Including luggage, livestock, and mail traffic

On the other hand, the number of passengers carried in 1947 was about 3 per cent. higher than in 1946, in which year the total was less than 1 per cent. more than in 1945.

The London Traffic Problem

(*Concluded from page* 402)

For some undisclosed reasons the redistribution of the population of the London area has been mostly projected into the already densely populated eastern, south, and south-eastern districts instead of the western and north-western districts, where the traffic arteries are open and capable of expansion. In future schemes this ought to be rectified.

The remedies suggested may be summarised in conclusion. Decanting of population from the central to the outer area of London should cease, unless local employment is provided concurrently with the removal of the workers. Alternatively, decantation from the central area should be sufficiently distant from London to discourage traffic from being thrown back on to the London Transport system—say a minimum distance of 100 miles. Certain existing surface railway routes in Greater London can be improved to carry additional passengers by enlarging the platforms and passenger-carrying rolling stock and installing automatic signalling. These improvements can be effected at small cost compared to the uneconomic proposals in the Greater London Plan.

Concrete Roundhouse Construction in France

The new shed at Avignon, incorporating extensive use of precast reinforced concrete units, is the prototype for future construction in France

RECONSTRUCTION of engine sheds destroyed in Allied air raids during 1943 and 1944 presented an urgent problem for the S.N.C.F. architects and engineers faced with the task of restoring the wrecked railway buildings, bridges, and marshalling yards of France after the liberation. Preliminary estimates showed that rebuilding of engine sheds alone involved an area of 250,000 sq. m. (nearly 300,000 sq. yd.). Due to the dearth of materials and skilled labour, very careful planning was required to meet existing and future needs at the least possible cost. During the winter of 1944-45, railway services were carried on under most precarious conditions, but preparations were pushed forward to house the engines salvaged from the war wreckage, and the new locomotives coming from America.

At the same time plans for the permanent rebuilding of locomotive depots were drawn up by M. Paul Peirani, Architect (D.P.L.G.), Chef de la Division des Bâtiments de la S.N.C.F. and Ancien Elève de l'Ecole Polytechnique. This work was done with the collaboration on the engineering side of M. Bernard Lafaille, Ingénieur des Arts et Manufactures, Directeur de l'Institut d'Etudes Techniques et Professionnelles.

It was decided to adopt the roundhouse pattern and to eliminate straight sheds as far as possible. The latter were avoided chiefly because of the large area required, difficulties due to standing several engines on the same track, and defective lighting due to soot and vapour deposits on glazed surfaces caused by dense clouds of smoke. In contrast, the roundhouse, with its turntable, gives easy access and exit, permits the use of a travelling gantry for transporting heavy parts to and from each bay, and is better adapted to rational lighting. In addition, the roundhouse offers the advantage that only one sector need be constructed, if that is all that is required, leaving room for future extensions. The S.N.C.F. roundhouses are of two types, one with a radius of 218 ft. 9½ in., housing 44 engines, and the other, 176 ft. 4½ in. in radius, lodging only 32 engines.

The roundhouse at Avignon is of the latter type. Its engine bays are 95 ft. 2 in. long, taking the largest locomotives and leaving ample space at each end for workmen to move with freedom. Pits are 82 ft. long. The spaces between the centres of adjacent tracks are 16 ft. 5 in., and the entry between columns 14 ft. 9 in. The roundhouse was designed in accordance with fixed principles. In addition to gauge and foundation data, these included effective lighting, efficient smoke extraction, and economy in materials. An essential feature was the use of numerous precast reinforced concrete units. All glass surfaces, such as glazed roof slabs, likely to receive smoke directly from engines in the shed, were discarded. Glass lighting surfaces were restricted almost entirely to the circumference wall, being thus remote from the en-

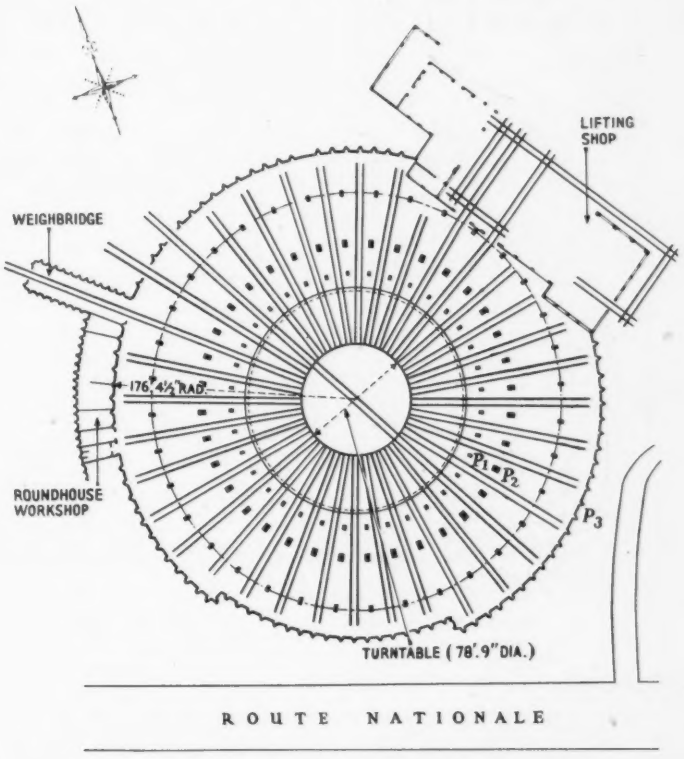


Fig. 1—Plan of Avignon roundhouse and workshops

General view of roundhouse, showing smoke conduits in roof and circumferential vent

gines, easy of access, and easily cleaned. Glass forms three-quarters of the entire wall surface.

In the choice of materials, wood, steel, masonry, and brickwork were eliminated, and the whole structure built of reinforced concrete, *in situ* or precast. Wood was discarded due to difficulties in obtaining timber of the required quality, as well as skilled labour. For similar reasons, masonry and brickwork were eliminated. Steel was rejected due to shortage of that material and danger of corrosion.

Rapid and complete extraction of smoke and fumes was an important consideration. Sulphurous acid fumes from pyrites in the coal, converted in part to sulphuric acid (though much diluted) in steam-laden air, exert a highly corrosive action both on metal and concrete. Due to the high temperature, the smoke and steam rise to the highest parts of the structure, where the vents are located to give quick evacuation. The vents are placed round the top of the façade at the highest part of the roof. As the greatest volume of smoke and steam is given off by the engines in each bay, smoke hoods are placed over the engine chimneys at the pit ends. The hoods, made of material and linings impervious to corrosion, are connected with the vents and suspended from the roof. Residual smoke under the roof escapes through orifices into the special smoke channels leading the rising currents, which are accelerated by the static smoke deflector in the vent.

The roundhouse rests on 324 Franki piles, 19 ft. 8 in. to 26 ft. 3 in. long, driven through the surface soil, sand, and clay down to the foundation gravel. Several of these piles, tested with double load, showed no settlement greater than 5/64 in. Part of an existing foundation wall was used. The roof is supported on three rings of reinforced concrete columns, P1, P2, and P3 (Fig. 1). The inner columns, P1, are set back 11 ft. 10 in. within the roof round the turntable opening, the resulting overhang offering no disadvantage as the climate is mild, and no screens are needed at the track ends. The interior columns, P2, besides taking the roof thrusts, also support the runway of the travelling gantry.

The third circle of columns, P3, forms the outer wall. These are the highest and most numerous, being three times the number in the inner circle. One in three stands on the centre line of a track, and may be removed if for any reason a new entry to the roundhouse is needed; the other two are bearer columns. Each column weighs about 7 tons 17 cwt. All are precast in mobile moulds on the site, or elsewhere if required.

Each column was hoisted into its vertical position by mechanical hoists. It was

(*Continued on page* 409)

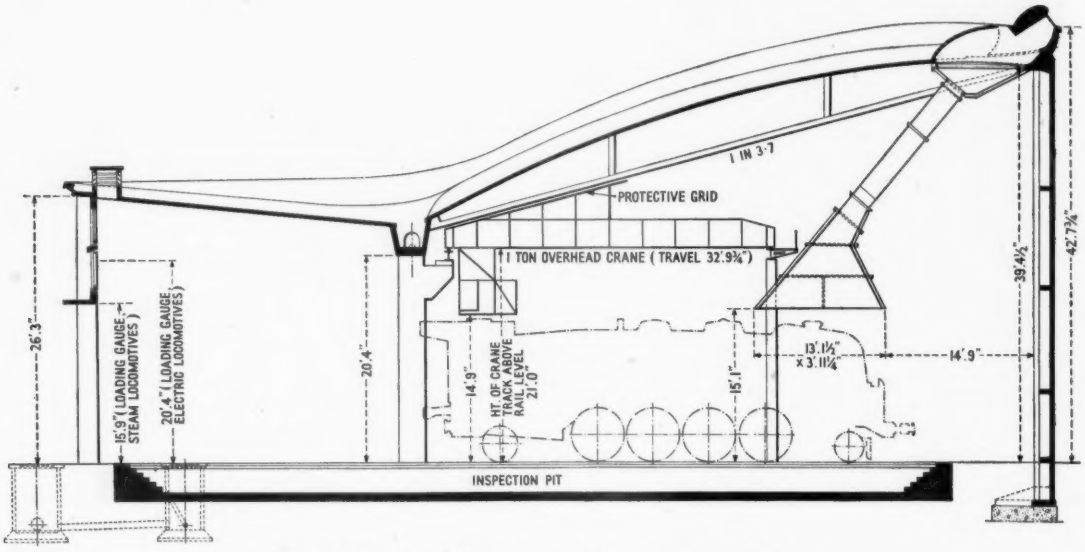
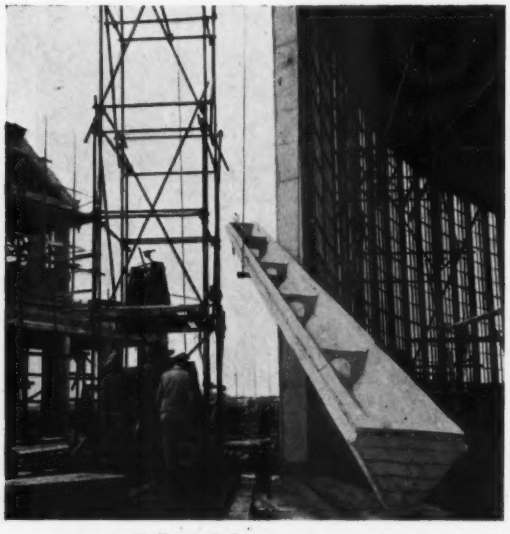
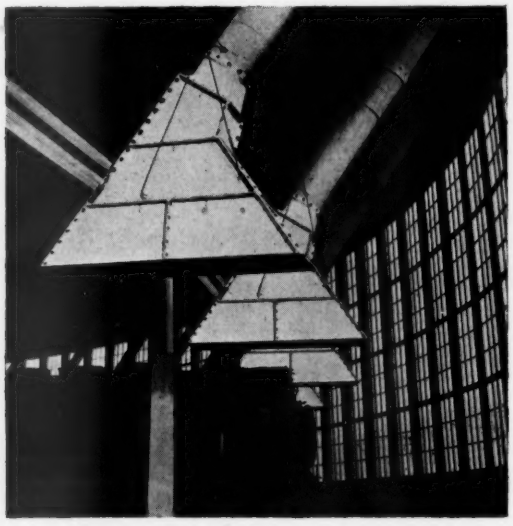


Fig. 2—Principal dimensions of a bay in the roundhouse



Hoisting a concrete column into position



Smoke extractors inside the roundhouse

South Wales Inspection by Transport Commission Chairman

(*See report on page* 416)

Photos] ["South Wales Argus"

At Newport Docks

Left to right: D. Blee, Member, Railway Executive; K. W. C. Grand, Chief Regional Officer, Western Region; J. T. Edmunds, Dock Manager, Newport; Gilbert Matthews, Superintendent of the Line, Western Region; L. E. Ford, Chief Docks Manager, Western Region; J. F. Arthur, Docks Mechanical Engineer, Cardiff and Newport; Sir Cyril Hurcomb, Chairman, British Transport Commission; G. E. Orton, Chief Officer for Public Relations, Western Region; J. H. Brebner, Chief Public Relations & Publicity Officer, British Transport Commission; R. H. Edwards, Divisional Docks Engineer, Cardiff and Newport; V. N. Jolliffe, Divisional Electrical Assistant to C.M.E., Cardiff and Newport Docks

Relaying in Polhill Tunnel, Southern Region

Completion of permanent way and ballast renewal work which necessitated closing the tunnel for three weeks

TRAFFIC through Polhill Tunnel, on the Southern Region main line from Charing Cross to Tonbridge, Hastings, and Dover, was resumed early on March 22, as recorded briefly in our March 26 issue. The tunnel had been closed for three weeks during a programme of renewals necessitated primarily by the penetration of moisture in the central portion. A plan of the tunnel and a description of the work to be undertaken appeared in our February 20 issue

The tunnel is 2,611 yd. long, and passes through the North Downs at a maximum depth of 220 ft. below ground level; there is a gradient of 1 in 143, falling towards the south. It is situated between Knockholt and Dunton Green on the main London-Dover route, and was opened to traffic in March, 1868. In general, the tunnel is constructed in the form of a brick arch resting on virgin chalk haunching, 7 or 8 ft. high. At the ends and below the five ventilating shafts, the brickwork arch is continued down to foundations below the track; at various other points, also, where erosion or sealing of the chalk side walls has taken place, patches of brickwork have been built in to prevent undermining of the arch.

The track through the tunnel was electrified in 1934-35. It normally is re-railed every four years, and completely renewed every eight years. The previous complete renewal was in 1937, but re-railing with 95lb. B.S. bullhead steel rails welded into 120-ft. lengths took place in 1942. The vault and side walls had become heavily coated with sooty deposits, which also permeated the track ballast, together with a certain amount of slurrified chalk. An analysis of the track ballast before the recent operations showed that the fine material passing an 8 B.S. mesh contained 11 per cent. by weight dry of chalk, probably washed down from the haunchings, and 18 per cent. carbonaceous matter. Percolation of water occurred on some sections through the vault and side walls, and particularly through the junction between the brickwork and chalk haunching.

The length of tunnel between 48 and 88 ch. was particularly wet, and in this section the grips in the four-foot way which had been excavated to assist drainage were filled with water up to the underside of the sleepers. The presence of a cable trough had prevented the provision of additional drainage, and tended also to shed the water from the walls on to the track. The ballast in this length, therefore, was not only extremely dirty, but, in general, flooded with water.

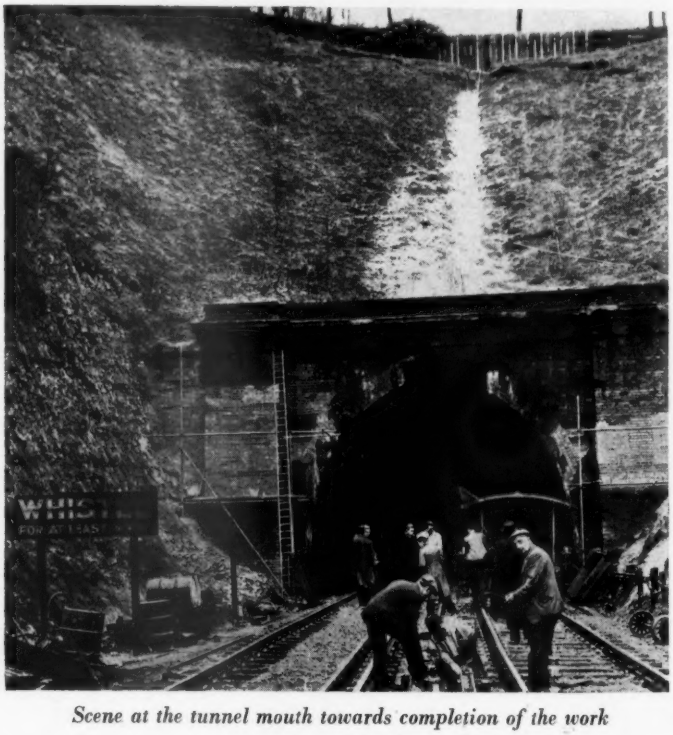
As a result, its bearing capacity had been reduced, and, with the manpower available, it had become increasingly difficult to maintain the track accurately to line and level for the smooth passage of fast traffic.

To provide space for a drain in the down cess, the cable route already mentioned was lifted throughout the wettest length from 48 to 88 ch. on to the top of the chalk haunching, which projects outwards from the face of the arch springing. This work, undertaken as a preliminary remedial measure, involved lengthening the cables by some 30 ft. As jointing in the tunnel was impossible, it was necessary to cut the cables at the Knockholt end, pulling about a mile of each of five cables some 30 ft. into the tunnel to provide the additional length required for the lifting. This was done in two week-ends, and involved the use of some 100 men and 500 special rollers.

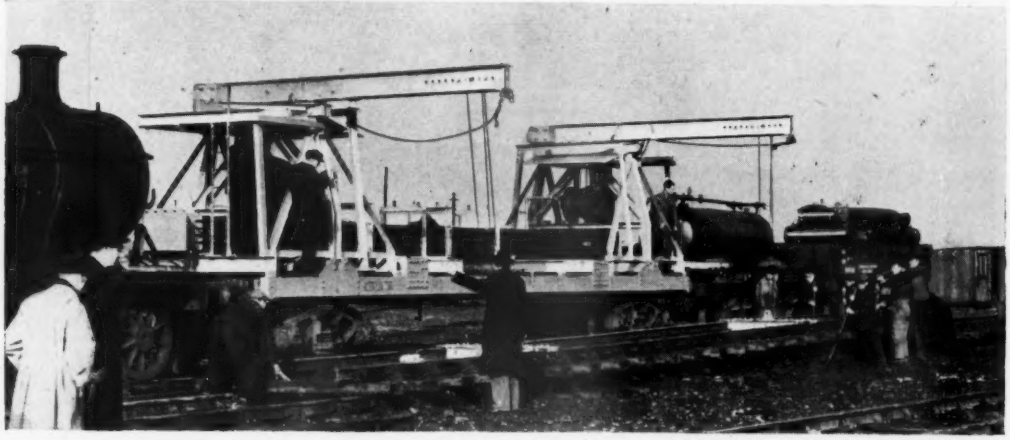
The major remedial measures undertaken during the three weeks' possession of the tunnel were as follow:—

(1) The complete renewal of the track on both roads through the tunnel with pre-assembled track consisting of 60-ft. B.S. bullhead steel rails with 27 sleepers to the rail length, in lengths of 60 ft.

(2) The removal by hand of the dirty ballast on both roads down to the under-



Scene at the tunnel mouth towards completion of the work



"Warflat" wagon with air-operated winches for laying prefabricated track

side of the sleepers over the lengths 0 to 48 ch. and 88 to 119 ch.

(3) The removal by mechanical plant of all dirty ballast to an average depth of 9 in. below underside of sleepers from 48 to 88 ch., and grading the formation to falls to the drains.

(4) The provision of a shallow precast concrete channel drain over the length 48 to 88 ch. on the down side, in the position previously occupied by the cable route, to intercept water which hitherto had flooded the ballast on the down road.

The track at the north and sound ends of the tunnel was relayed by a new prefabricated track method, using two air-winches mounted on a 40-ft. "Warflat" wagon, which was provided with two swinging arms at 30-ft. centres, with ropes and tackle long enough to plumb the adjacent track; and an adjustable balance weight consisting of 17¼ tons of old rails.

When relaying by this method, the "Warflat" is provided with its own locomotive, and after being placed in position the arms are swung out and the counterbalance adjusted. The swinging arms carry special lifting bales which are attached to a 60-ft. length of old track complete with sleepers; this is then lifted, and the "Warflat" shunted back opposite an empty rail bogie on the material train placed on the road already relaid.

The length of old track is then dropped on the empty bogie, a further shunt back is made, and a new length of track picked up from the next bogie of the material train. The "Warflat" is then moved forward, and the 60-ft. length of new track dropped in. The process is repeated until the length to be renewed is completed.

In the centre portion of the old tunnel the old track was removed by hand and broken down, the old rails being loaded on to three bogies equipped with Robel cranes, and the sleepers loaded by hand on to drop-side wagons. The ballast was then dug out to an average depth of 9 in. below the underside of sleepers with an Insley ½-cu. yd. excavator, fitted with skimmer attachment, loading into wagons on the opposite road.

Matisa tamping machine at work in the tunnel. The machine was loaned by the North Eastern Region

New ballast from Meldon Quarry was placed in to a depth of 6 in., and the new track relayed by the method previously described. Fettling was carried out continuously throughout the work, and a Matisa automatic tamping machine, described in our August 22, 1947, issue, was used to complete the operation.

The material excavated by machine amounted to about 2,500 cu. yd. About 60 per cent. of this was tipped at the toe of the embankment between Nunhead and Crofton Park on the Catford Loop line. This embankment tended to be unstable and liable to slips, and the remedial measures were undertaken simultaneously with the Polhill Tunnel work in order to take advantage of filling material being available at a cheap rate. The remainder of the material was tipped elsewhere, for various purposes.

In view of the large amount of mechanical plant liable to be working at the same time in the tunnel, a carbon-monoxide estimator was used to ensure that the amount of CO present was in safe limits.

In order to meet conditions arising from relaying, speed restrictions were applied when the tunnel was reopened. The down line was opened at 30 m.p.h., and eased to 45 m.p.h. within seven days. On the down line the restriction at reopening was 15 m.p.h., which was eased to 30 m.p.h. within seven days, and to 45-50 m.p.h. after a further seven days.

Concrete Roundhouse Construction in France

(*Continued from* 406)

suspended from a point just above its centre of gravity, and gradually swung upward until about 4 in. above the foundation base. It was then lowered slowly with the help of guide marks and wedges into the soft mortar in the foundation socket. The columns are cast hollow, with a V-shaped section, and in the façade the V-edge faces outward. The entire hoisting operation took about 2 hr. All the columns are well vibrated, and for equal volume and weight they have a higher moment of inertia than standard rectangular columns. They give the structure its harmonious architectural appearance.

All other precast units in the structure were easily hoisted, the weight in no case exceeding 1½ tons. The precast parts in the façade include the frames for the glass panes between the columns, the lintels, the moulded ornamental cornice and its intermediate parts, and the static smoke deflectors forming the vents all round the upper side of the cornice. The designers calculated the cost of this type of precast façade in comparison with that of ordinary reinforced concrete construction. Taking a portion 49 ft. 2 in. high by 88 ft. 7 in. long in each case, they found that the precast form saved 70 per cent. in concrete and 57 per cent. in steel. To cut the costs of the structure to a minimum, the plans provided in advance for all drainage, water, gas, compressed air, and electric lighting fixtures, so that masons, plumbers, and others would not have to pierce holes and waste time working with scaffolding and ladders. The plans even provided for the fixing of catenary supports to receive electric locomotives in the roundhouse, if required in the future. Adequate space was provided for offices, workshops, and stores.

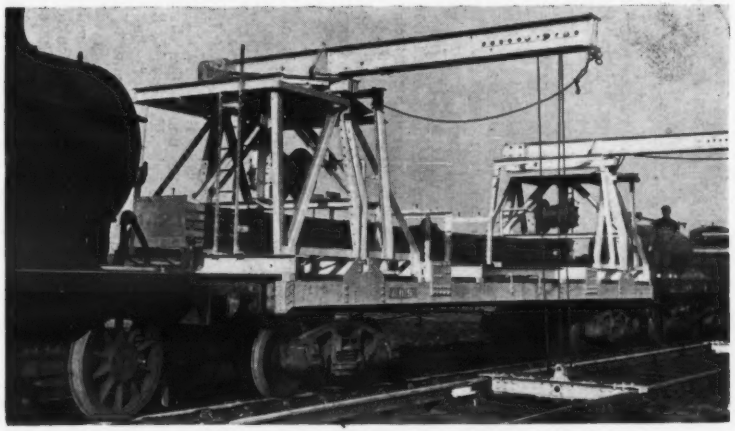
Smoke extraction was the guiding factor in the construction of the roundhouse roof. The general view of the shed (Fig. 2) shows the radial smoke conduits in the roof. These give a ribbed surface, each conduit running like an inclined chimney from the lowest to the highest part of the roof, where all the vents are situated around the cornice crowning the façade. Between the columns P1 and P2, the roof was given a conic form; and between the columns P2 and P3 a toroid form. The arched parabolic curve of the latter was stiffened by the roof beams. Normal formwork, shuttering, sheathing and moulding in wood or metal, was used for fabrication of the *in situ* concrete.

The conic part of the roof offered no difficulty; but the arched parabolic vaulting was executed by means of two mobile scaffolding sets, one close to the interior columns P2, and the other near the exterior façade columns P3. Between the two was placed the centering supporting the shuttering for the toroid surface and roof beams. Wood or metal plank sheathing was used for finishing the toroid surface. After due time for setting and curing, the centering was scraped away, dismounted, and set up again in the next sector. In this way an average advance of 59 ft. was made every 12 days.

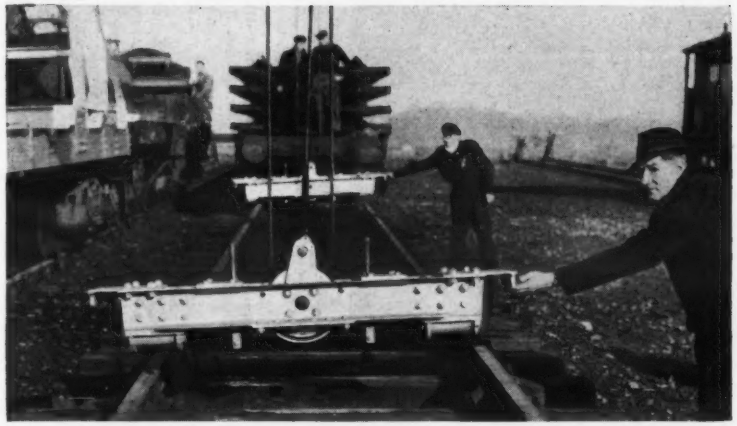
To accelerate smoke extraction, static deflector vents were placed all round the cornice. These receive the smoke from the roof conduits and from the hoods over the engines (Fig. 2). Contractions in the vent exits, and also in the suspended hoods, aid the venturi extraction effect. The deflectors give good extraction with horizontal winds striking the façade and forming upward air currents, and also with winds striking the roof obliquely. Details of the deflectors were studied in a series of tests on scale models of the roundhouse carried out in the wind tunnel of the University of Paris at Saint-Cyr.

Credit for the successful completion of this enterprise is due to the S.N.C.F. technical staff, under the direction of M. Robert Levi, aided by M. Brigaux, Architect & Inspector of the Division des Bâtiments. The teamwork of all concerned is an outstanding example of the spirit in which French railwaymen have overcome immense difficulties in post-war reconstruction work. The construction of the Avignon roundhouse, despite delays in obtaining supplies, was carried out by the contractor, the firm of Gaillard, in two months under the specified time of one year.

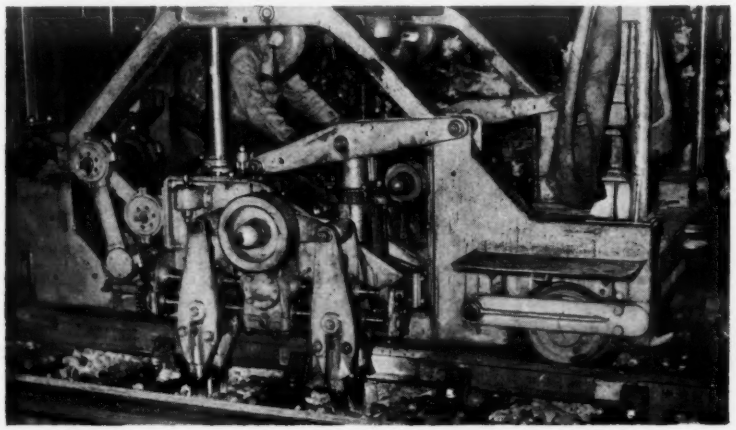
Relaying in Polhill Tunnel, Southern Region



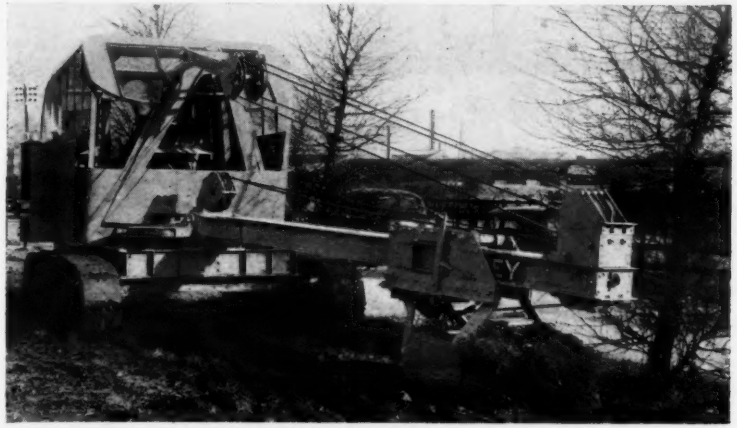
Equipment for laying prefabricated track, showing the air winches, balance weight, and lifting bales; with air reservoir and compressor on adjacent wagon



Attaching a lifting bale to a section of old track for removal preparatory to relaying with prefabricated sections. After removal, the old track is loaded on to the wagon in the background



Close-up of Matisa tamping machine mechanism packing ballast under a sleeper after the new track has been laid



Insley excavator used for removing old ballast inside the tunnel and loading direct into wagons

RAILWAY NEWS SECTION

PERSONAL

Major William Gregson has been elected President of the Institution of Mechanical Engineers for 1948-49.

Mr. Henry Hume Saunders, Joint Managing Director of the Vulcan Foundry Limited, has been obliged to retire on medical advice. Mr. Gerald Collingwood, who was General Manager, has been appointed Joint Managing Director in his place.

Mr. R. G. Henbest, F.R.I.C.S., who, as recorded in our issue of January 30, has been appointed Estate & Rating Surveyor, Southern Region, British Railways, entered the Estate Office of the S.E.R. in 1915 and became a technical assistant in 1927. He was a student of the College of Estate Management, and passed his final examination of the Chartered Surveyors' Institution in 1931. From 1933 to 1936 Mr. Henbest was responsible for negotiations for sales and purchases on the former S.E. & C. Section of the company's estate, and in 1936 was placed in charge of development matters, also acting as Personal Assistant to the Estate & Rating Surveyor in confidential matters. During the war he also dealt with matters arising out of emergency legislation so far as it related to the company's estate, including the settlement of compensation for the occupation of the company's property by the Services and other Government departments. In 1941 Mr. Henbest was appointed Estate Assistant to the Estate & Rating Surveyor, Southern Railway. Mr. Henbest was elected a Fellow of the Royal Institution of Chartered Surveyors in 1939.

Mr. R. G. Henbest

Appointed Estate & Rating Surveyor, Southern Region, British Railways

Mr. Harold A. Akroyd has retired from his appointment as Managing Director of the Yorkshire Engine Co. Ltd., but is remaining on the board as Consultant. Mr. Akroyd was educated at Elland Grammar School and the Bradford Technical College, served his apprenticeship with Beyer, Peacock & Co. Ltd., and was afterwards employed by Robert Stephenson & Co. Ltd. In 1906 he joined the staff of the Yorkshire Engine Company as leading draughtsman, and he was appointed Chief Draughtsman in 1907. He became Assistant General Manager in 1928, General Manager in 1936 and a Director in 1938. On Mr. Akroyd's retirement, Mr. R. A. Dyson becomes Managing Director, and Mr. K. C. Banks, General Manager. Mr. J. N. Compton, who was recently Chief Mechanical Engineer, Great Indian Peninsula Railway, and afterwards was Chief Controller of Standardisation, Indian Railway Board, has joined the company as Mechanical Engineer, and will be in charge of all matters of design and production.

Mr. H. F. Burt

Appointed Solicitor, Southern Region, British Railways

Mr. H. F. Burt, M.C., who, as recorded in our January 30 issue, has been appointed Solicitor, Southern Region, British Railways, was articled with Bircham & Company, Solicitors, Westminster, and admitted a solicitor in 1907. He entered the Solicitor's Office of the London & South Western Railway in 1910, and during the 1914-18 war, he served with the R.F.A. in France; he was awarded the M.C. Mr. Burt was appointed Assistant Solicitor (Common Law) to the Southern Railway in 1932.

Mr. Robert Montgomery and Dr. Gerónimo Cortes Funes have been appointed Chairman and Deputy-Chairman of the legal and commercial representation of the ex-British-owned railways in Argentina, which came into being on March 1 last. Mr. Montgomery was appointed Deputy General Manager of the Buenos Ayres Great Southern and Buenos Ayres Western Railways in 1939, and became their Financial & Commercial Adviser in July, 1947. Dr. Cortes Funes was appointed Assistant Chief of the Joint Legal Department of the Anglo-Argentine railways in 1944.

Mr. Alfred Dunstan Cook, who, as recorded in our January 30 issue, has been appointed Treasurer, Southern Region, British Railways, was educated at Addey Stanhope School and City of London College. He joined the S.E.C.R. in 1903, and after four years' training at London stations, was transferred to the Chief Cashier's Office. He was commissioned in the Railway Section of the Royal Engineers in the 1914-18 war, and served in France, Belgium and Germany; he attained the rank of Captain and was mentioned in despatches. In 1920, Mr. Cook was appointed Assistant to Chief Cashier, S.E.C.R., and was appointed Chief Pay Clerk of the Eastern and Central Sections, Southern Railway, at London Bridge in 1924. A year later, he was placed in charge of Cash Receiving for the same sections and appointed Chief Pay Clerk and Cash Receiver. He was transferred to Waterloo in October, 1932, and appointed Chief Cashier, Southern Railway, which position he held until his appointment as Treasurer, Southern Region. Mr. Cook has been associated with several of the staff clubs and friendly societies, for which he acts as Honorary Treasurer.

Mr. A. D. Cook

Appointed Treasurer, Southern Region, British Railways

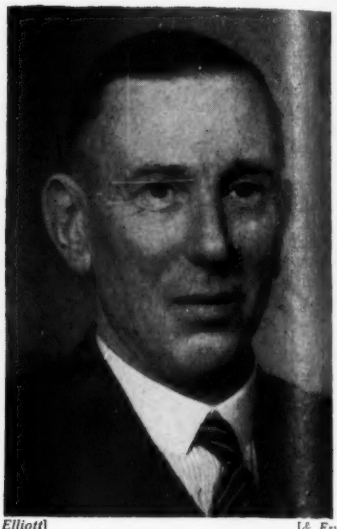
Mr. C. H. Sutherland, who, as recorded in our March 19 issue, has been appointed Regional Accountant, London Midland Region, British Railways, began his railway career in the Traffic Manager's Department, Highland Railway, in 1905. Two years later he was transferred to the Accounts Section of the Engineering Department, and in 1913 to the Accountant's Department. In 1925, after the formation of the L.M.S.R., Mr. Sutherland was transferred to Euston as an investigator of expenditure and costs, and in 1934 he was appointed Assistant to the Accountant, from which position he was promoted Assistant Chief Accountant in 1937. In 1933 he was selected as an assistant to the Royal Commission appointed under the chairmanship of Sir Guy Granet to inquire into the financial position and the working of the South African Railways. In November, 1947, Mr. Sutherland was appointed Acting Chief Accountant of the L.M.S.R., in succession to Mr. G. Morton, Chief Accountant, who was appointed Chief Financial Officer to the Railway Executive.

Mr. H. H. Halliday

Appointed Regional Staff Officer, Eastern Region, British Railways

Mr. C. Cooper

Appointed Regional Staff Officer, North Eastern Region, British Railways



Elliott [*& Fry*

Mr. R. Burgoyne

Appointed Regional Staff Officer, Western Region, British Railways

Mr. H. H. Halliday, who, as recorded in our February 13 issue, has been appointed Regional Staff Officer, Eastern Region, British Railways, was educated at Easingwold Grammar School and entered the service of the old N.E.R. as a junior clerk in the Chief Goods Manager's Office, York, in 1903. In 1911 he was selected for a course of special training in traffic working and was transferred temporarily to the operating department, and was employed at Tyne Dock, Middlesbrough, and other places. After being in charge of the staff section of the goods and passenger departments for six years, Mr. Halliday took control of an important section of work in the General Manager's Office in 1922. This move led to his appointment on amalgamation as head of the salaried and clerical staff section of the Chief General Manager's Office, L.N.E.R. In 1924 he was transferred to the wages staff section. He was appointed Principal Assistant (Staff) in 1932. Mr. Halliday had held the appointment of Assistant General Manager (Staff) since July, 1946.

Mr. Collingwood Cooper, M.B.E., who, as recorded in our February 13 issue, has been appointed Regional Staff Officer, North Eastern Region, British Railways, commenced his railway career with the old North Eastern Railway at Hull, where he held a number of positions in the passenger, goods and operating departments until July, 1915. He was loaned to the Ministry of Munitions in November, 1915, and from 1916 to 1919 was on active service in France, when he was mentioned in despatches. Mr. Cooper received special training at small stations during 1919-20, and following this, occupied various positions in the staff sections of the Goods Manager's Office of the N.E.R. From 1923, he was employed in the staff section of the Chief General Manager's Office, L.N.E.R., and in December, 1935, returned to York as Assistant to Superintendent (Staff). In 1938, he was appointed Staff Assistant to Traffic Officers, and in December, 1939, took over additionally the staff work of the Locomotive Running Superintendent. In January, 1946, Mr. Cooper was made an M.B.E.

Mr. Robert Burgoyne, previously Assistant Chief Staff & Establishment Officer, G.W.R., who, as recorded in our issue of February 13, has been appointed Regional Staff Officer, Western Region, British Railways, entered the service of the Great Western Railway in December, 1906, in the office of the Superintendent of Works at West Ealing. In March, 1908, he was transferred to the Chief Engineer's Office at Paddington and five years later to the General Manager's Office. He joined H.M. Forces early in 1915 and served with the B.E.F. in France for three years. On returning to the G.W.R. at the end of 1918, Mr. Burgoyne was attached to the staff section of the General Manager's

Mr. S. G. Ward

Appointed Assistant Regional Staff Officer, Western Region, British Railways

Brigadier J. C. B. Wakeford

Lately Chief Railway Commissioner, Burma; appointed Chief Engineer, Cameroons Development Corporation

Mr. P. R. Agarwal

Appointed Chief Mechanical Engineer, Jodhpur Railway

Office, and became head of the section in 1936. Between 1929 and 1937, Mr. Burgoyne was Secretary of the company's side of sectional councils and other negotiating bodies. Mr. Burgoyne was appointed Assistant Chief Staff & Establishment Officer in October, 1941.

Mr. S. G. Ward, who, as recorded in our February 13 issue, has been appointed Assistant Regional Staff Officer, Western Region, British Railways, entered the service of the G.W.R. in 1916, at Paddington Goods Station, and in 1920 was transferred to the staff section of the General Manager's office. Since that date, apart from a break in 1929-30, when he accompanied Brigadier-General F. D. Hammond on an inspection of the Tanganyika Railways, he has been continuously associated with railway staff and labour matters. Mr. Ward was appointed Secretary of the company's side of G.W.R. Sectional Councils Numbers 2, 3, 4 and 5 in 1937, and served in that capacity until 1945. In February, 1944, he was appointed Assistant to the Chief Staff & Establishment Officer.

Brigadier J. C. B. Wakeford, C.M.G., A.M.I.Mech.E., M.Inst.T., until recently Chief Railway Commissioner, Burma, and afterwards Technical Adviser on Railways to the Government of Burma, who has resigned from the service of that Government, and has been appointed Chief Engineer to the Cameroons Development Corporation, was born on August 23, 1898, and was educated at Malvern College, where he was a minor classical scholar from 1912-15. In 1916 he went to the Royal Military Academy, and he was commissioned as 2nd Lieutenant, R.E., in February, 1917. After service in France and Belgium in field companies, he proceeded with a field company to North Russia in the 1919 campaign, and was mentioned in dispatches. On return to England he was selected for three years' training in railway traffic and construction work with the L.N.W.R. In 1922-23 he was at Clare College, Cambridge, under a scheme for university engineering training for R.E. regular officers who had entered the Army during the war; and from there he went to the Railway Sub-Commission in Cologne until 1927. He commanded the 10th Railway Company, R.E., at Longmoor from 1927 until 1930, and had much to do with the earlier training arrangements of the Supplementary Reserve Transportation units. After a period as Adjutant, 46th North Midland Division Engineers, at Smethwick, from 1930 to 1934, Brigadier Wakeford went to Malaya and was the Garrison Engineer responsible for the civil engineering works in connection with the building of the fixed defences of the eastern entrance to the Johore Straits, which works included the first land-mounted 15-in. battery to be built anywhere in British possessions. Returning to England in 1938 he joined the L.M.S.R. for a year's refresher training in recent developments of railway operating; later in the same year he became Instructor, Mechanical & Railway Traffic, at the Railway Training Centre at Longmoor. On the outbreak of war he became Chief Instructor there, and until December 31, 1940, was responsible for the entire technical training of the large number of Transportation recruits. For a short time early in 1941 he was commanding No. 2 Railway Operating Group, and then was on service in the northern half of England. He proceeded to West Africa in May, 1941, to organise a Transportation staff and services in British West Africa, and to assist with Transportation work in the French Equatorial and Belgian Congo. Returning to England early in 1943, he had a short tour of duty as A.D.Tn. Combined Operations, and again went overseas, in September, as D.D.Tn. Ceylon, from which he was transferred and promoted as D.Tn. 11th Army Group and later as D.Tn. Allied Land Forces, South East Asia, in April, 1944. In the last-named appointment Brigadier Wakeford was largely responsible for the planning and subsequent performance of all transportation facilities in the recapture of Burma in 1944 and 1945, as well as for planning and arrangements for other and subsequent operations. He took over as Chief Railway Commissioner, Burma, in July, 1945.

Mr. P. R. Agarwal, B.Sc. (Eng.), A.M.I.Mech.E., M.I.Loco.E., M.I.E. (India), Carriage Works Manager, Ajmer, Bombay, Baroda & Central India Railway, who has been placed on deputation with the Jodhpur Railway as Chief Mechanical Engineer, was born in 1908, and graduated in mechanical and electrical engineering from Benares Hindu University in 1930, where he stood first and was awarded the Prince of Wales Gold Medal. After his apprenticeship on the G.I.P.R. and the Jodhpur Railway, he joined the B.B.C.I.R. in 1935, and later became District Locomotive & Carriage Superintendent at Ahmedabad and Bombay. In 1941 he was selected as Assistant Chief Controller of Standardisation, Central Standards Office for Railways, and in 1944 became Deputy-Director, Mechanical Engineering, Railway Board. For his war services he was awarded the honour of Rai Bahadur in the New Year Honours, 1946, in which year he went on deputation to the United Kingdom to attend the Empire and International Standards Conferences as a delegate of the Government of India. On his return he served as Locomotive Works Superintendent, Dohad, and then as Carriage Works Manager, Ajmer. His services are now being placed at the disposal of the Jodhpur Durbar for three years in the first instance. Mr. Agarwal has contributed papers before various institutions and to technical journals, including *The Railway Gazette*. He was awarded the Railway Board's medal for his paper, "Diesel Traction on Indian Railways."

Mr. Gerald F. Thick, General Manager since 1945, has been appointed to the board of Macrome Limited, Wolverhampton.

Among those recently elected by the Royal Society into the Fellowship of the Society are Messrs. T. E. Allibone, Director, Research Laboratories, Associated Electrical Industries Limited; and J. W. Ryde, Senior Physicist, Research Laboratories, General Electric Co. Ltd., Wembley.

Mr. E. J. Fouracre, Director & General Sales Manager, Westinghouse Brake & Signal Co. Ltd., whose death was recorded in our March 19 issue, was 61 years of age. He joined the firm of Evans & O'Donnell at Chippenham, then engaged in manufacturing mechanical signalling, in 1900, and was transferred to Saxby & Farmer Limited, of Kilburn, in 1903. On the amalgamation of those two companies he went to the head office of Saxby & Farmer Limited in London. At the next amalgamation, that of Saxby & Farmer Limited, McKenzie & Holland Limited, McKenzie, Holland & Westinghouse Power Signal Co. Ltd., and Westinghouse Brake Co. Ltd., in 1921, he was made Assistant Sales Manager. In 1932 he became Sales Manager, and he was appointed to the board in 1945. He became Director & General Sales Manager in 1946. In addition, he was a Director of the Railway Signal Co. Ltd., and Deputy-Chairman of the Railway Brakes & Signals Industrial and Export Groups.

The late Sir William J. Talbot, who was Chairman of the Talbot-Stead Tube Co. Ltd., left £132,712.

Mr. Hugh Weeks, deputy to Sir Edwin Plowden, the Government's Chief Planning Officer, has been appointed Controller of Plans for the Colonial Development Corporation.

Mr. K. W. C. Grand and Mr. G. S. Halliday have been appointed Directors of City of Oxford Motor Services Limited, in place of Sir James Milne and Mr. A. E. C. Dent, who have resigned.

Mr. H. Weedy, Chief Engineer of City of Oxford Motor Services Limited, has been appointed General Manager, succeeding Mr. R. F. Dixon, who has retired.

The King at Buckingham Palace on March 24 conferred the honour of knighthood on Colonel Eric Gore Browne, lately Chairman, Southern Railway Company. His Majesty's approval of this knighthood was signified on January 1, 1948.

COLONIAL RAILWAY APPOINTMENTS

The Crown Agents for the Colonies have recently made the following appointments:—

Mr. J. G. Gaccon, as Assistant Traffic Superintendent, Malayan Railway.

Mr. E. A. Cunningham, as Assistant Traffic Superintendent, Railway Department, Gold Coast.

Mr. J. R. Palmer, as Assistant Traffic Superintendent, Malayan Railway.

Mr. C. E. Jefferson, Freight Traffic Manager, Canadian Pacific Railway, since 1930, has been appointed to the new post of General Traffic Manager; his headquarters will remain in Montreal, where he will have jurisdiction over all the company's traffic matters (freight, passenger and steamship). Mr. H. W. Gillis, hitherto Assistant Freight Traffic Manager, Western Lines, Winnipeg, has been appointed Freight Traffic Manager, Montreal; Mr. Gerald Hiam and Mr. G. F. Buckingham, of Montreal, also take the appointment of Freight Traffic Manager, the former in Montreal with Mr. Gillis, the latter in Winnipeg.

We regret to record the death, at the age of 76, of Major Charles Hubert Stemp, C.B.E., who retired in 1935 from the position of Superintendent, Southern Scottish Area, L.N.E.R. He joined the Great Eastern Railway in 1884, and within 12 years was appointed Chief Assistant to the District Officer of the Northern Division. After subsequently carrying out special duties at headquarters, and then serving as a first class Stationmaster in the London District, in 1906 he joined the North British Railway as Traffic Assistant to the Superintendent of the Line. He afterwards served as Assistant Superintendent of the Line, and in 1916 was appointed Operating Superintendent. On the formation of the L.N.E.R. he became Superintendent of the area comprising the former North British Railway, the position he held until his retirement.

Institution of Railway Signal Engineers

Annual general meeting and presidential address

The annual general meeting of the Institution of Railway Signal Engineers was held in London on March 16, the retiring President, Mr. F. L. Castle, occupying the chair at the commencement. He drew attention to the arrangement made with the Institution of Electrical Engineers whereby the library had been incorporated with that of the other Institution, and said also that the lectures on signalling in the Signal School of the London Transport Executive, with the assistance of the Institution's Vice-President, Mr. R. Dell, were proving most successful.

Mr. H. H. Dyer, Past-President, said that Mr. Castle had refrained from referring to his own work for the Institution, which had been considerable.

Mr. Castle presented the awards made by the Council for the two best papers read before the Institution in 1947, the first to Mr. E. J. F. Derijckere—on whose behalf the award was received by Monsieur A. Mertz, of the Belgian Railways & Marine London Office—for his paper, "New System of Signal Aspects for the Belgian National Railways," and the second to Mr. L. R. Insley, for his paper, "Electrical Power Supplies for Railway Signalling."

Mr. Castle invited Mr. A. Moss, the new President, to assume the chair.

Mr. Moss asked Mr. H. M. Proud, Past-President, to propose a vote of thanks to Mr. Castle for his services during 1947, and the vote was seconded by Mr. J. H. Fraser.

Mr. A. Moss then delivered his presidential address, in the course of which he said that, as the commencement of 1948 had brought to a close 25 years of grouping initiated by the Railways Act of 1921, and ushered in nationalisation, authorised under the Transport Act, 1947, it would seem appropriate to consider at the outset the possible trend of railway signalling. In many ways there was a similarity in the times during which those two Acts of Parliament had been passed; in both we were faced with high costs of labour and materials, and general scarcity.

The record of railway signalling achievements under grouping was one of which we could be proud, and, if history repeated itself, as reputed, we need not fear the future once the new organisation had surmounted its "teething" troubles and got thoroughly into its stride.

Never before had it been possible for the Signal Departments of the former separate railways to be brought together as one unified whole and accorded the status of a separate department under the charge of Regional Signal & Telecommunications Engineers, completely divorced from the Civil Engineer.

Standardisation of Equipment

The natural corollary to nationalisation was standardisation, and the British railways, by virtue of a unified control, were in a position, so far as signalling was concerned, to take full advantage of that. There was a fruitful field to be explored in attaining considerable standardisation, in principles and practice, but, of course, stagnation must be avoided. It was no longer in anyone's interests to have great diversity of practice, or variation in types of equipment. In the past 25 years, particularly owing to deliberations of various B.S.I. committees, and the standardisation committee set up by the railway companies which had reported in 1931, a great effort had been made to standardise much signalling equipment. With what result? Some railways had adopted the standards, some partially adopted them and some preferred not to use them. Mr. Moss thought it was in that field that a great opportunity now existed for the "human element" of the interested departments to co-operate in agreement on, and adoption of, the best practices, to attain a uniform system.

That changes would have to be made and expense incurred should not detract from the obvious advantages of a general use of standardised material. How often in the past had they heard from manufacturers about the benefits to be obtained by bulk ordering? By judiciously standardising components those benefits could be translated into reduced costs for equipment and bulk orders for the manufacturers.

Standardisation of Principles

A large element of standardisation could be applied to signalling principles and practice. Did we possess a standard code in that respect? The grouped railways had made great efforts through the R.C.H. committees to attain that end, but much still required to be done.

The French National Railways had gone closely into the matter; and the paper recently read before the Institution by Monsieur Derijckere, of the Belgian National Railways, had given an insight into one phase of their activities, the standardisation of signalling aspects. Were we satisfied, in view of the rapid development of colour-light signalling, that our present system of multiple-aspect signalling gave a driver all the information he should possess, particularly on lines catering for both fast through and comparatively slow movements?

A.T.C. and Colour-Light Signalling

On the Continent and in America, where extensive automatic train control installations had been laid down, there had been no unanimity as to what was required. In this country we had not made great headway, despite the A.T.C. Committees set up by the Minister of Transport in 1922 and 1927 having recommended the adoption of a system like that used on the Great Western Railway and further experiment with the Hudd inductive system. As a result, the former G.W.R. had extended its system to the whole of its lines; and the Hudd system was in operation on the London Tilbury & Southend section of the former L.M.S.R. and had been authorised by the former L.N.E.R. for installation between Edinburgh and Glasgow.

From the experience obtained from those installations and from other trials and experimental work carried out by the former L.N.E.R. it should be possible to arrive at a solution best suited to the needs of the British railways, and within the next few years see our main lines on the way to being equipped with apparatus designed to meet the oft-repeated recommendations of the Inspecting Officers of Railways.

Mr. Moss also looked forward to the day when all our main trunk routes emanating from the metropolis would be equipped with continuous track circuiting and colour-light signalling based on agreed multi-aspect principles.

Probably no activity in which they were interested had shown such advancement as had taken place in telecommunication work. It might not be too optimistic to visualise an auto-network covering the entire country for railway purposes. A similar network for machine telegraphy, which could be extended to cover additional facilities such as forwarding of invoices and way bills, might be possible. The use of electronic devices would undoubtedly increase, not only as a means of communication to or from moving trains, but possibly also in appliances connected with purely signalling matters.

The Future of the Profession

Quite recently he had been confronted with the view that there was no "future" in signalling. Similar views had often been expressed before. Thomas Telford, the first President of the Institution of Civil Engineers, when writing to a friend in 1830, had clearly been under the same impression as regards his own profession. There might be truth in the view to those who merely asked, "What is the future going to do for us?" instead of "What are we going to do for the future?" In the old days signalling had been a "one-man" job in so far as it had been well within the compass of one man's brain.

It was now the age of specialists—team work—and individual effort. Much had been done to provide tuition in signalling matters, both by the railways and the Institution; younger men should lose no opportunity of availing themselves of it. The key to success was to be found only by hard work, by seeking out knowledge for oneself, by not relying entirely on "spoon feeding" by a "good employer" or the Institution. Never had there been such a need for more qualified and knowledgeable young men.

Staff and Labour Matters

Increased Rates of Pay

On March 19 the weekly-paid staff of British Railways received for the first time the new rates agreed recently between the Railway Executive and the railway trade unions (see our March 5 issue).

The new annual rates laid down by the revised schedules, which are effective from February 1, include the following:—

Male clerical staff: Senior clerks, Class 5, £192 10s. at age 18, rising to a maximum of £490 in Class 1.

Stationmasters, goods agents, yardmasters, and passenger & parcels agents: £280 in Class 6 to a maximum of £490 in Class 1.

Male dock supervisory staff: £320 in Class 5 to a maximum of £490 in Class 1.

Traffic control staff: Minimum of £370 in Class 3 to a maximum of £490 in Class 1.

Male salaried staff in special classes: Minimum of £510 in category "A" to £630 in category "C."

Female clerical staff: From £3 6s. 6d. a week in Class 2 at age 18 to a maximum of £5 12s. in Class 1.

London allowance for all the foregoing is £10 a year. Drivers and motormen in all areas receive £6 4s. a week, rising to £6 18s. in the sixth year; and firemen and assistant motormen £5 3s., rising to £5 17s. in the sixth year.

Superannuation and pensions are to be dealt with on the basis of the revised rates of pay. This does not mean there will be any alteration to the superannuation and pensions of those who retired before the effective date of the new schedules.

Midland Counties Electric Supply Co. Ltd.

The ordinary general meeting of the Midland Counties Electric Supply Co. Ltd. was held at Winchester House, Old Broad Street, E.C.4, on March 24, Mr. William Shearer, Chairman, presiding.

The Secretary, Mr. H. S. Beatty, read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and accounts, referred in his opening remarks to the loss the company had sustained by the death of Mr. Morrice Edwards, who had been a Director of their company for 11 years, and of their principal subsidiaries for 35 years.

Speaking of the Electricity Bill, the Chairman said that on April 1 the companies with which they were associated would be swallowed up in the vast new State monopoly. He imagined they would all join with the directors in regretting the passing of private enterprise in electricity supply, and although the future of the industry would be in other hands, they could at least look back with satisfaction and pride on the part they had played together in the Midland Counties in laying the foundations of its present prosperous position.

Never in the history of this country was there more need of national unity than at present, and he was convinced that the Government's policy of nationalisation of key industries had done more to disunite the nation than some of the other major items in the Socialist programme.

Many of them were acutely aware of the menace of Communism and of the eclipse of freedom which followed in its train. That was one of the reasons why he viewed with apprehension the key industries—coal, transport, communications, electricity, gas, and possibly steel and chemicals—becoming State monopolies under the absolute control of two or three Ministries, and so ready to hand to come into the grip of a small but powerful caucus, inspired and controlled by alien influences.

Statutory Compensation

The statutory compensation to which stockholders will be entitled was based on the Stock Exchange prices of their securities on certain specified dates, in the case of the ordinary stock this being 51s. 5d. per £1 unit. Stock Exchange prices, particularly in an industry like electricity supply, were related mainly to dividends paid—in the case of their ordinary stock 10½ per cent.—but this dividend, owing to the prudent handling of their finances throughout the years, was much more than justified out of electricity revenue alone. The traction revenues were largely ploughed back into that section of their business, thus avoiding, to a considerable extent, new issues of capital for its development. The basis of statutory compensation resulted, therefore, in the anomalous and thoroughly inequitable position that, to all intents and purposes, the State received a gift of the whole of their traction undertakings, which they valued at upwards of a million and a half pounds sterling.

The electricity supply industry as a whole was being taken over at a bargain price far below its true value, and it had been pleaded in justification that substantial future savings in capital charges would be attained. Surely, then, they were entitled to expect that such savings, widely proclaimed during the passage of the Electricity Bill through Parliament, would more than offset increases in operating costs, and permit the new authority to continue the policy pursued by both local authority and company enterprises of reduction in price to the consumer.

The whole of their distribution system passes on the vesting date into the hands of the East Midlands Electricity Board, of which their General Manager, Mr. C. R. King, had been appointed Chairman. They heartily congratulated him on his appointment, which their directors were convinced he would fill with the same ability and distinction which had characterised his management of their electricity undertakings.

He had referred already to their traction interests, and must add very briefly a few statistics applicable to that section of their business. During the last two years they had obtained delivery of 105 new vehicles and their fleet now consisted of 372 vehicles, which had been maintained in first-class condition. During 1947 they carried 79,000,000 passengers, an increase of 3,000,000 over those carried in 1946. The stage carriage services now covered approximately 570 route-miles.

They would see from the revenue account that the net profit of the company, together with the balance brought forward from last year, amounted to £668,336, and after setting against this amount the charge for income tax of £288,238, the transfer of £60,000 to reserve account, the payment of dividends on the preference stock, and payment of an interim dividend of 4 per cent. on the ordinary stock, there remained a balance of £153,723, which the directors recommended should be dealt with as follows: In payment of a final dividend of 6½ per cent. on £3,500,000 ordinary stock (making 10½ per cent. for the year), less tax, £125,125; in carrying forward to next account, £28,598.

The report and accounts were adopted.

Isle of Man Railway Company

The ordinary general meeting of the Isle of Man Railway Company was held in Douglas on March 10, Mr. R. Q. Hampton, Chairman of the company, presiding.

The Secretary & Manager, Mr. A. M. Sheard, read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and accounts, said that the results, though not equal to those of the previous year, were still the second best total of gross receipts in the history of the company. The decrease was in the receipts from passenger traffic, which were £9,281 7s. 3d. less than the peak year of 1946.

Goods, parcels, rents, etc., showed increases amounting to £1,414 11s., but there were increased working expenses to be met. These, however, had been offset largely by adjustments in the winter schedules. Their wages bill was now £31,000 more than before the war, an increase of 122 per cent., the figures being £56,574 last year compared with £25,500 in 1938, which was a matter of grave concern. This company had always been outstanding in its effort to provide full employment, but it must be obvious that with the present high level of wages the company could not maintain the same degree of winter employment in the future.

As regards net revenue, in 1946 they had repayment of premiums and contributions for war damage insurance, £772, and some £400 more interest on investments, so that the 1947 net revenue showed a decrease of £1,172 in respect of these items.

They carried 1,175,440 passengers during the year, being 137,340 less than in 1946, and provided an efficient service for the travelling public and for the conveyance of mails, parcels and goods. A considerable amount of time and material had been expended on rolling stock repairs, and practically all arrears of maintenance of viaducts, bridges, and so on, have been overtaken. It was not possible to proceed with any relaying during the year, owing to delay in obtaining supplies of new rails.

Users of their system would have noticed pronounced improvements in the carriages, furnished with Dunlopillo seating. In addition, a larger number has been re-upholstered and reconditioned generally to pre-war standards. This work would be continued as opportunity occurred to provide the materials needed.

Their locomotives had been largely reconditioned, and their directors were satisfied that the rolling stock and the permanent way were, for all practical purposes, adequately serviceable for the demands of the coming season.

Glen Wyllin had again shown its attraction for visitors and residents alike. There were 12,550 more admissions than in 1946, and there was no doubt that the number would have been much greater had they been able to cater as in pre-war days.

During the year their subsidiary company, Isle of Man Road Services Limited, received delivery of the long-expected double-decker buses. It had at the present time 12 of these vehicles, which were spacious, comfortable, and attractive. A further number was on order. The introduction of the double-deckers, although a great boon to the travelling public and largely solving the question of overcrowding or queueing, was, he felt sure, the reason to some extent of the drop in railway passenger traffic last year.

Notwithstanding the increased capacity of the double-decker buses, the peak periods of their summer traffic could not be worked with the absolute certainty of getting all the passengers out of town and back again at the rush hours of travel, without the flexibility of the railway system to depend upon. No other means, as yet, could so cope with the island's season requirements. There was, besides, a heavy goods traffic which must be collected, carried and delivered or stored, all of which the railway did efficiently and well.

The Commission on Transport in the island, set up by Tynwald in November, 1946, had not yet issued its final report, so that there was no comment he could make, except to say that a reference had been made to the commission of a petition from the Douglas Corporation to the Legislature, for leave to introduce a Bill giving power to run its buses in competition with rail and road services in an area of two miles outside the town boundaries. In England certain well-defined rules and principles were observed by independent traffic commissioners in dealing with matters of this kind, and as the English Road Traffic Act had been introduced in

all its essentials in the Isle of Man, he felt confident that the same rules and principles would be observed there. They would, of course, present their case if leave to introduce were given, and endeavour to retain the traffic they had built up.

They would see from the accounts that there was a balance of £9,758 carried to net revenue account. Add last year's carry-forward of £2,226, and interest on investments £4,418, making a total of £16,402. Against this they deducted debenture interest and other charges, £7,199, leaving the sum of £9,203. The directors had allocated £1,000 to the rolling stock renewal fund, leaving disposable the sum of £8,203 11s. 5d., and now recommended a dividend of 5 per cent. on the preference shares of the company, taking £2,500, and a dividend of 2½ per cent. on the ordinary shares, taking £3,500, leaving a sum of £2,203 11s. 5d. to be carried forward to next year's accounts.

The report and accounts were adopted.

Sir Cyril Hurcomb's Tour in Western Region

On Tuesday, Wednesday, and Thursday of last week, Sir Cyril Hurcomb, Chairman of the British Transport Commission, accompanied by Mr. J. H. Brebner, Chief Public Relations & Publicity Officer, British Transport Commission, Mr. D. Blee, Member of the Railway Executive, and by Mr. K. W. C. Grand, Chief Regional Officer, Mr. G. Matthews, Superintendent of the Line, and Mr. G. E. Orton, Chief Officer for Public Relations, Western Region, visited Swindon and South Wales. On the first day an inspection of Swindon works was conducted by Mr. F. W. Hawksworth, Chief Mechanical Engineer, Western Region, and he and a number of railway officers were entertained to lunch by Sir Cyril Hurcomb in the saloon of the train. On Wednesday, the party visited Newport and Cardiff, where the docks were inspected. The Lord Mayor of Cardiff, the Town Clerk of Cardiff, and a number of local railway officers were among those present at a luncheon given by Sir Cyril Hurcomb at the Park Hotel, Cardiff. Afterwards the Chairman's party visited Barry Dock and Penarth Dock before returning to Cardiff. In the evening a dinner was given on board the ss. *St. Andrew* at Penarth. On Thursday a visit was made to Port Talbot Docks, and afterwards the party proceeded to the Caswell Bay Hotel, where the Mayor and Town Clerk of Swansea, a number of industrialists, and railway officers were entertained to luncheon.

During the course of the visit to Swindon, Sir Cyril Hurcomb announced that because of the urgency of speeding up repairs to wagons, the work which previously had been carried on outdoors at Swindon, now had been transferred to the Newburn carriage shed. The transfer involved the re-instatement of the railway tracks and repairing installations which had become dilapidated during the period of requisiton. The new arrangement would provide an increase of approximately 2,000 wagon repairs a year.

Sir Cyril also announced that plans had been prepared to modernise the smiths' shop and to extend the present welding facilities by the installation of an additional machine, which would greatly assist the important work of wagon construction and repair.

A further proposal to increase the efficiency of Swindon works is the construction of a new automatic telephone exchange with 750 lines, as the present telephone facilities had become inadequate to deal with present-day demands, and occasioned delay.

Sir Cyril Hurcomb announced at Cardiff that to speed up the discharge of iron ore from ships, 6 ten-ton electric cranes are to be installed at East Quay, South Dock, Newport. These facilities, with additional sidings accommodation, which also will be provided, will enable an additonal 150,000 tons of iron ore to be discharged each year.

Two six-ton diesel-electric travelling cranes are to be provided, one at Newport docks and the other at Cardiff docks, to enable repairs to be carried out on vessels afloat.

To speed-up the export of coal from South Wales, it has been decided to double the speed of loading coal into ships by the re-commissioning of two hoists, which will be capable of handling an extra 600,000 tons a year. As the volume of coal increases, further hoists will be commissioned.

The increase in production of deep-mined coal has led to a further demand for pit-props, and arrangements have been made to provide storage for the increasing number of pit-props in the area north of Queen Alexandra dock. Four new sidings will be provided to handle this traffic, and work will commence on the provision of the sidings and storage accommodation as soon as the necessary permit is available.

The Kings Wharf Cold Store at Cardiff docks, which comprises 26 chambers with a total capacity of 10,000 tons and cost £250,000, at present is managed by the Railway Executive, on behalf of the Ministry of Food. The British Transport Commission is considering the purchase of the store, which should prove a valuable addition to the facilities offered by the port.

Sir Cyril Hurcomb also made an examination of the works which are proceeding at the hot strip mill and cold reduction plant, Margam. This scheme, which is being carried out under the auspices of the Steel Company of Wales, involves the following railway works, costing more than £750,000: Doubling the Ogmore Valley extension line and connection to main line; nest of sidings near 2¼ mile post and new connections; nest of sidings near Margam siding East Signal Box and new connections; new bridge to carry Port Talbot docks branch over main lines; repositioning of Port Talbot docks branch; two passenger platforms.

In addition, several contingent works, such as the extension of Margam wharf, the provision of a new hydraulic power station and pumps and an additional electricity supply are under consideration. (See illustrations on page 407).

MODEL RAILWAY CLUB EXHIBITION.—The annual exhibition of the Model Railway Club was opened on March 30, at the Central Hall, Westminster. It is estimated that some 3,000 models are being exhibited and they include many types of locomotives, coaches and wagons, in some cases in their pre-grouping liveries. A number of unfinished models is on show, so as to enable the methods of construction to be studied. The locomotive models cover an extensive range and include a 2 mm. model of an ex-Southern Railway "E2" class 0-6-0 tank, and a 130-year-old model of the single-driver *Samson*. In the basement are a number of working layouts built by private owners and railway clubs, as well as those by trade firms.

Renumbering of British Railways Locomotives

A new locomotive numbering system is to be introduced by British Railways, as reported briefly in our March 26 issue. This is necessary to avoid confusion between locomotives of former railways bearing the same numbers. Where possible the old numbers, or a slight addition to them, will be used.

The new system will separate steam from diesel, electric, or gas turbine locomotives. It affects some 20,000 locomotives, which will be dealt with as they pass through the repair shops.

A uniform system of showing the number on the front of steam locomotives is to be adopted. This will follow L.M.R. practice of a permanent cast-iron plate on the smokebox door. The type of figure used on the cab and bunker sides, and its size and colour, will follow the existing practice of each region until such time as a standard design of figure is decided on.

The numbers of former G.W.R. locomotives will remain unaltered. This railway was the only one to have locomotive number plates on cab and bunker sides, and these will remain. The new numbering system fits into the recent comprehensive numbering scheme just completed by the former L.N.E.R. New locomotives constructed in 1948 and 1949 will be placed in the number group appropriate to the region in which they were designed. The allocation of the numbers of locomotives among and within the regions is as shown below:—

LOCOMOTIVE GROUP NUMBERS

Western Region 1 to 9999

No alteration to existing steam stock. Diesel-electric locomotives now under construction to be numbered commencing 15100; gas turbine locomotives, 18000 and 18100.

Diesel, Petrol, and Gas Turbine Locomotives

Number group 10000 to 19999

Existing and projected locomotives to be numbered as under:—

Region		
L.M.	1,600-h.p. diesel-electric	10000 onwards
	1,600-h.p. diesel-mechanical	10100 "
Southern	1,600-h.p. diesel-electric	10200 "
L.M.	800-h.p. diesel-electric	10800 "
Southern	400-h.p. diesel-mechanical	11000 "
L.M.	Diesel-electric shunters	12000 "
Eastern	" "	15000 "
Western	" "	15100 "
Southern	" "	15200 "
Western	Brown-Boveri gas turbine	18000 "
Western	Metro-Vickers gas turbine	18100 "

Electric Locomotives—Number Group 20000-29999

Region		
Southern	CCI type	20000 onwards
Eastern	B_0B_0 type	26000 "

Southern Region—Number Group 30000 to 39999

Add 30000 to existing numbers, with following exceptions:—

(*a*) 0-6-0 "Q1" class	33000 onwards
(*b*) "West Country" class	34000 "
(*c*) "Merchant Navy"	35000 "
(*d*) Electric locomotives	20000 "
(*e*) Diesel-electric shunters	15200 "
(*f*) Diesel-mechanical	11000 "
(*g*) 1,600-h.p. diesel-electric	10200 "
(*h*) Isle of Wight Section	No alteration

London Midland Region—Number Group 40000 to 59999

Add 40000 to existing numbers, with following exceptions:—

(*a*) Steam engines already numbered above 20000 to be re-numbered 58000 onwards*	
(*b*) 1,600-h.p. diesel-electric	10000 onwards
(*c*) 1,600-h.p. diesel-mechanical	10100 "
(*d*) 800-h.p. diesel-electric	10800 "
(*e*) 350-h.p. diesel-electric shunters	12000

* About 257 engines in this group to be given completely new numbers. Others will be added from time to time to make room for new standard L.M.R. locomotives in 41200 and 43000 groups

Eastern and North Eastern Regions—Number Group 60000 to 69999

Add 60000 to existing numbers with following exceptions:—

(*a*) Existing engine 10000 to be re-numbered	
(*b*) Diesel-electric shunters	15000 onwards
(*c*) Electric locomotives	26000 "

Future Standard Types of Locomotives

To be numbered 70000 and onwards

Questions in Parliament

Cheap Travel Facilities

Mr. Henderson Stewart (East Fife—Lib. Nat.) on March 16 asked the Secretary of State for Scotland what action he had taken on the appeal by the Scottish Youth Hostels Association for a restoration of cheap travel facilities to enable Scottish youth organisations to enjoy modest and healthy recreation.

Mr. A. Woodburn (Secretary of State for Scotland): I have brought the request of the Scottish Youth Hostels Association to the attention of the British Transport Commission and I understand that it is looking into the matter.

Mr. Stewart: Are we to understand that the Minister has recommended the Commission to take a sympathetic view of this matter?

Mr. Woodburn: I have brought the request to its notice.

"A" and "A Contract" Licences

Mr. Ernest Davies (Enfield—Lab.) on March 8 asked the Minister of Transport if he would state the number of applications for "A" and "A Contract" licences respectively made during the year 1947 and the number granted; and also the increase or decrease this represented over the number in issue in each case at December 31, 1946.

Mr. Alfred Barnes (Minister of Transport), in a written answer, stated: On December 26, 1947, there were 83,933 "A" licensed vehicles and 17,600 "A" licensed operators, 13,944 "A Contract" licensed vehicles and 5,437 "A Contract" licensed operators. This was an increase of 2,877 "A" licensed vehicles, 87 "A" licensed operators, 4,317 "A Contract" licensed vehicles, and 1,584 "A Contract" licensed operators since December 27, 1946.

Mr. Ernest Davies also asked the Minister of Transport if he would state the number of new "A" and "A Contract" licences respectively issued in January, 1948; and the numbers outstanding at January 31, 1948.

Mr. Alfred Barnes stated in a written answer: I have asked the licensing authorities for goods vehicles to supply this information, and will forward it to Mr. Davies when I receive it.

Nationalised Ships

Captain A. Marsden (Chertsey—C.) on March 8 asked the Minister of Transport what house flag was flown and what were the funnel markings of shipping acquired by H.M. Government under the Nationalisation of Railways Act.

Mr. Alfred Barnes: Captain Marsden presumably has in mind the ships which, by virtue of the Transport Act, 1947, became the property of the British Transport Commission. The house flag to be flown by these vessels and their funnel markings are matters for the Commission to consider, and I am bringing Captain Marsden's question to their attention.

Captain Marsden: Are we really going to start this all over again? Will the Minister advise the Commission to have some cheerful, bright flag and funnel markings worthy of the ships which they will adorn?

Mr. Barnes: The Commission take notice of members' comments on these matters, but this is not quite a question on which I can instruct them.

Sir Waldron Smithers (Orpington—C.): Will the Minister give an assurance that the house flag will not be the Hammer and Sickle?

Major J. A. Boyd-Carpenter (Kingston-upon-Thames—C.): Or the Jolly Roger.

Vice-Admiral E. A. Taylor (Paddington South—C.): Are not the Government sufficiently proud of the ships which have been nationalised for them to fly a house flag? Will the Minister of Transport instruct the Transport Commission in this matter?

Sir Wavell Wakefield (Marylebone—C.): Are we to understand that so far no house flag has yet been thought of or designed for such vessels?

Mr. Barnes: I do not think Sir Wavell Wakefield is entitled to assume anything of the kind.

Sir Wavell Wakefield: I have not assumed anything.

Railway Freight and Passenger Charges

Air-Commodore A. V. Harvey (Macclesfield—C.) on March 18 asked the Prime Minister if, in view of the request of the Government to industry for the stabilisation of prices, he would give an assurance that no further increases would take place in the price of coal, gas, electricity and railway freight and passenger charges.

Mr. C. R. Attlee (Prime Minister): The Government White Paper on Personal Incomes, Costs and Prices has been brought specially to the attention of the boards of socialised industries, and Air-Commodore Harvey can rest assured that they and the Ministers concerned will act in accordance with the principles of that paper.

Air-Commodore Harvey: The Prime Minister has not answered my question. How can he possibly expect industries to do what he wants them to do if he does not set them a lead by means of the Government nationalised industries?

Mr. Attlee: As I have pointed out, this is a matter for the socialised industries and the Ministries concerned. I have not indicated that they have to take any different step.

Mr. A. T. Lennox-Boyd (Mid-Bedford—C.): Could the Prime Minister give an assurance that if any of those industries wished to decrease their prices they would be allowed to do so?

Mr. Attlee: I should have thought so. I do not know who is going to stand in their way.

Mr. Lennox-Boyd: May I ask the Prime Minister to consult with those of his colleagues who have just issued an Order prohibiting the gas and electricity undertakings from reducing their prices?

Mr. Attlee: I am quite sure Mr. Lennox-Boyd, who has had some experience of Ministerial office, will realise the reason why that was done.

Sailing Tickets to Northern Ireland

Sir Ronald Ross (Londonderry—C.) on March 8 asked the Minister of Transport whether he would instruct the Transport Commission to use all their resources to put sufficient cross-channel ships into operation as would render the use of sailing tickets to Northern Ireland unnecessary during holiday periods.

Mr. Alfred Barnes: I am informed that sailing tickets will not be required on the British Transport Commission or other services to Northern Ireland during the summer except at the holiday peaks, when they are of assistance to travellers in guaranteeing them a place on a particular sailing. On the other services, sailing tickets will probably be introduced about the beginning of July.

Sir Ronald Ross: Are not the resources of the Transport Commission sufficiently elastic to allow sufficient transport for holidays in the United Kingdom, in view of the restrictions that are placed on Continental travel?

Mr. Barnes: Sir Ronald Ross is, no doubt, aware that other services are involved, as well as those of the British Transport Commission. If he will look at the reply he will note that it is only during the heavy holiday peak periods that the sailing tickets will be in force, and that is intended more for the convenience of passengers than probably for any other reason.

Sir Ronald Ross: Is the Minister aware that before the war sailing tickets were never necessary during these peak periods? Cannot he get back to that situation by supplying enough ships?

Professor D. L. Savory (Belfast University—C.): Does the Minister realise that last year in the summer holidays several thousands of people were prevented from visiting Northern Ireland, in spite of their ardent desire to see the country, and will he try to do what he can to facilitate their journey?

Mr. Barnes: I am afraid I cannot facilitate the journey of those thousands of people who were disappointed last year. I am dealing with this year's arrangements.

Fuel Allowance for Motor Coaches

Mr. Martin Lindsay (Solihull—C.) on February 23 asked the Minister of Transport whether he now intended to reduce petrol consumption on the part of motor coaches hired for pleasure purposes, in order to ensure equality of sacrifice between all road users.

Mr. J. Harrison (Nottingham East—Lab.) asked the Minister of Transport if he were aware of the heavy bookings by the general public for the coming holiday season with motor coach firms; and if he would make, as a matter of urgency, an announcement as to whether additional restrictions on the use of private or public coach hire were to be imposed.

Mr. Alfred Barnes stated in a written answer: I have decided to make a 12½ per cent. cut in the fuel allowed to motor coach operators for the purpose of public excursions and tours and private party trips, compared with the corresponding period of 1947.

Mileage of Canals and Inland Waterways

Mr. J. A. Sparks (Acton—Lab.) on February 11 asked the Minister of Transport if he would state the reasons for the drop in mileage of canal and locked river navigation by 300 miles as compared with 1939, showing separately the reasons which obtained concerning the reduced mileage on L.M.S.R. canals.

Mr. Alfred Barnes stated in a written answer: Of the estimated drop of 300 miles, 200 miles were abandoned under Acts of Parliament, and 2 miles were abandoned by authority or Orders made under the Railway & Canal Traffic Act, 1888.

The remaining mileage comprises navigations or parts of navigations which have not been maintained due to insufficiency of traffic receipts or have become unusable because of mining subsidence and other causes. Of the 194 miles with which the London Midland & Scottish Railway was concerned, 7 miles were abandoned under the London Midland & Scottish Railway Act, 1941, and 174 miles were abandoned under the London Midland & Scottish Railway (Canals) Act, 1944.

The remaining 13 miles are of the Monkland Canal, over which no traffic has passed for many years and which is the subject of an application for a warrant and order of abandonment under the Railway & Canal Traffic Act, 1888.

Notes and News

Deputy Chief Mechanical Engineer Required.—A deputy chief mechanical engineer, under 45 years of age, is required by the Iraqi State Railways for three years, with prospect of renewal. See Official Notices on page 419.

Vacancy with a Railway Track Supply Firm.—There is a vacancy for a man, between 30 and 40 years of age, with engineering experience, with a London railway track supply firm. See Official Notices on page 419.

Temporary Engineering Assistant Required.—A temporary engineering assistant is required by the London Transport Executive in the design section of the drawing office of the Signal Engineer at Earls Court. See Official Notices on page 419.

Senior Draughtsman (Engineering) Required.—A senior draughtsman (engineering) is required by the Kenya & Uganda Railway & Harbours for two to four years with prospect of permanency. Candidates must have a sound knowledge of engineering works and building construction. See Official Notices on page 419.

Train Telescoped by Banking Locomotive.—Two carriages of a passenger train ascending a steep incline at Spoleto, north-east of Rome, on March 21, were telescoped as a result of a banking engine continuing to propel the train after the train engine had stopped. It is reported that the communication cord had been pulled in one of the coaches. Four people were killed and 60 injured.

Diesel Production at Baldwin Locomotive Works.—The Baldwin Locomotive Works, at Eddystone, Philadelphia, which has turned out thousands of steam locomotives since it was built more than 25 years ago, is well towards completing its conversion for the manufacture of all sizes and types of diesel-electric locomotives. The company is a comparative newcomer in the diesel field. It constructed some shunting locomotives shortly before the war, but then was obliged to concentrate all its facilities on steam locomotives for Government requirements, and other war products. Today the company is developing assembly-line methods, and at one end of the new diesel engine shop, two final assembly lines have been started, one for 660-h.p. and 1,000-h.p. shunters, and the second for 1,500-h.p. shunters. One finished locomotive comes off the first assembly line every day, and a locomotive is completed every second day on the other line. The plant is also able to complete one heavy-duty transfer locomotive a week, but main-line locomotives take longer to produce.

Institute of Traffic Administration.—Delegates from London, Portsmouth, and Southampton recently met at the Dolphin Hotel, Southampton, to consider the formation of a Southampton centre of the Institute of Traffic Administration. A meeting will be held at the Royal Hotel at 7.30 p.m. on Tuesday, April 6, at which plans will be made for future development.

Assistant Engineers Required for Rhodesia.—Applications from qualified candidates, aged about 23 to 40 years, are invited for nine or more assistant engineers' posts on the Rhodesia Railways in the normal and temporary establishments. Candidates must have a university degree in engineering or be an Associate Member of the Institution of Civil Engineers. See Official Notices on page 419.

Vacancies in the Midlands.—The traction department of an electrical engineering firm in the Midlands has vacancies for men having good engineering background, designers experienced in the electrical design of traction motors and generators, and draughtsmen with experience in the mechanical design of such machines. Also juniors wishing to take up this work will be considered. See Official Notices on page 419.

Irish Sailing Tickets on Western Region Routes.—Sailing tickets will be required for travel by the Fishguard—Waterford and Fishguard—Rosslare steamers of British Railways (Western Region) on various dates during the Whitsun and summer holiday periods. They will be available for issue from April 5, instead of not more than eight weeks in advance as in previous years. At Whitsun they will be needed for the sailings to Ireland by both routes on Wednesday, May 12, and Friday, May 14, but not for those from Ireland. They will also be required on both routes for all sailings to Ireland throughout July and August; and on Fridays, June 4 to 25, and September 3; and for all sailings from Ireland throughout July, August, and September. Applications, accompanied by stamped addressed envelope, should be made, for outwards sailings, to the Central Inquiry Bureau, Paddington Station, W.2; and, for return sailings, to the agents of British Railways at Adelphi Wharf, Waterford, and Rosslare Harbour, quoting the numbers of passports or travel permit cards.

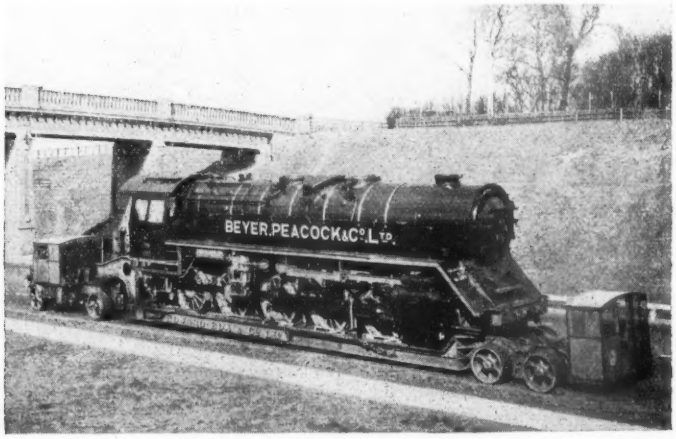
U.S. Train Services Cut by Coal Strike.—A reduction of 25 per cent. in passenger services worked by coal-burning locomotives was imposed by the Government on the U.S. railways at midnight on March 21, in consequence of a strike by 340,000 miners. The strike was in support of a demand by Mr. John L. Lewis for a miners' pension. Under this order, the railways were prohibited from substituting oil-burning or electric locomotives on the services affected. At the same time, all bituminous coal exports from the United States were halted in an effort to conserve the dangerously low coal stocks.

The Strike Situation in Queensland.—A one-hour lightning strike of dockers was held throughout Australia on March 19 in support of the railwaymen in Queensland who had been on strike for some six weeks (see *The Railway Gazette* of March 5). An anti-picketing law had been imposed in Queensland, and this was the subject of protests by the Trades Union Council of Australia. The railway traffic position improved, however, and Brisbane was relatively little affected in the latter part of the month apart from a reduced suburban train service and minor shortages. Aircraft were used to take food to isolated towns.

Belfast & County Down Railway Sale.—Major Perceval-Maxwell, Parliamentary Secretary to the Northern Ireland Ministry of Commerce, replying to a question in the Ulster House of Commons, said that the Belfast & County Down Railway could not be sold without legislation. The sale price was £485,989 9s. 5d. In arriving at this figure consideration had been given to a number of factors, including the Stock Exchange quotations. The Stock Exchange value of the stocks on December 5 last was £349,712 12s. 9d. In another reply, Major Perceval-Maxwell said that the amount mentioned was merely the compensation to be paid to the shareholders. The question of compensation for redundant staff would be dealt with in the Bill. The terms of the sale were given in our January 23 issue.

United Railways of the Havana & Regla Warehouses Limited.—Total railway receipts, as shown in the report for the year ended June 30, 1947, increased from £3,083,933 to £3,477,988. Receipts from warehouses and wharfs were £152,298, as against £94,933, giving total receipts of £3,630,286, comparing with £3,178,866 in the preceding year. Total expenditure rose from £3,102,838 to £3,431,400. The Chairman, Mr. R. G. Mills, in a statement issued with the report, points out that of the increase of £451,420 in gross receipts, £399,184 was derived from sugar and sugar products, the 1947 sugar crop being the

British Locomotives for Turkey



The first of a number of 170-ton locomotives en route by special road vehicle from Manchester to Liverpool for shipment to the Turkish State Railways. The locomotives, which are of 4ft. 8½in. gauge, are too large for the British loading gauge. Overall dimensions are ; Maximum height above rail level, 14ft. 0½in.; maximum width, approximately 10ft.; length of engine and tender over buffers, 73ft. 4 5/16in. In the photograph reproduced above the leading bogey wheels have been removed

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

Rhodesia Railways

APPLICATIONS from qualified candidates, aged about 23 to 40, are invited for nine or more Assistant Engineers' posts on the Rhodesia Railways in the normal and temporary establishments. Candidates must have a University degree in Engineering or be an Associate Member of the Institution of Civil Engineers; in addition, railway civil engineering experience is essential for older men and railway training desirable for younger men. A knowledge of structural design and construction details of railway structures and track is required.

Commencing salary in the scale £400-£30-£820, according to age and experience, with cost-of-living allowance of 10 per cent. at present in addition, plus children's allowances. Free passages to Rhodesia for selected candidates. Applicants should be prepared to go to Rhodesia without families in the first instance, as housing accommodation cannot be provided by the Rhodesia Railways. Successful applicants will be required to join contributory Pension Fund and Medical Fund. Prospects of consideration later for normal establishment of those in temperary appointments.

Apply by letter stating age, whether married or not, and full particulars of qualifications and experience or training, to THE RHODESIA RAILWAYS LIMITED, 11, Old Jewry, London, E.C.2.

No. 536419 "Improved Cushioning Side Bearing for Railway Vehicles"

THE owners of the above patent are desirous of arranging by license or otherwise, on reasonable terms, for the manufacture and commercial development of the invention. For particulars address in the first instance to HERBERT HADDAN & CO., 31 & 32, Bedford Street, Strand, London, W.C.2.

Government of Iraq

APPLICATIONS from qualified candidates are invited for the following post:—

DEPUTY CHIEF MECHANICAL ENGINEER required by Iraqi State Railways for three years, with prospect of renewal. Salary Iraq Dinars 120/130 a month, according to qualifications and experience. Cost-of-living allowance I.D. 24 a month (I.D. 1 = £1). Free passages. Provident fund. Candidates under 45, must be A.M.I.Mech.E., or hold engineering degree, have served an apprenticeship or pupilage on British railway, and have had considerable experience in both locomotive running and repair work, and in the maintenance of rolling stock. Workshop experience and knowledge of diesel-electric locomotives an advantage. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/12840 (3B) on both letter and envelope.

THE Traction Department of a large Electrical Engineering Firm in the Midlands is being expanded, and excellent opportunities exist for men having good engineering background and wishing to obtain wider experience. Designers, experienced in the electrical design of traction motors and generators. Draughtsmen with experience in the mechanical design of such machines are required. Also Juniors wishing to take up this work will be considered. Reply giving details of training and experience and salary required. Assistance given with housing accommodation.—Box 434, 8, Serle Street, London, W.C.2.

REQUIRED.—Two Technical Assistants for Track Surveying work in connection with Manchester—Sheffield—Wath electrification. Applicants should have had experience in surveying, and should have passed the preliminary examination of the Institution of Civil Engineers or other equivalent examination. Salary according to age and qualifications, and engagement on a temporary basis. Applications in writing, stating age, experience, etc., with copies of recent testimonials, to: Box 33, c/o *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

SENIOR DRAUGHTSMAN (ENGINEERING) required by the Kenya and Uganda Railways and Harbours for 2 to 4 years, with prospect of permanency. Salary £500 a year, rising to £600 a year. Cost-of-living allowance up to £187 a year. Outfit allowance £30. Free passages and quarters. Superannuation fund. Candidates must have a sound knowledge of engineering works and building construction; and of the design of structural steel and reinforced structures. A knowledge of railway yard layout an advantage. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/23736 (3D) on both letter and envelope

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LONDON TRANSPORT EXECUTIVE.—Applications are invited for post of temporary Engineering Assistant in the Design Section of the Drawing Office of the Signal Engineer at Earls Court. Applicants should possess Higher National Certificate in Mechanical Engineering or an equivalent qualification. Drawing office experience should include design of electrical and mechanical components and jigs and tools. The appointment will be subject to a 3 months probationary period, after which the probable duration of the employment will be 2 or 3 years. Minimum commencing salary £500 per annum, according to qualifications, ability and experience. Application giving particulars of age, experience and qualifications, should be sent to the STAFF OFFICER (ER/E471), LONDON TRANSPORT EXECUTIVE, 55, Broadway, London, S.W.1, so as to be received not later than April 17, 1948.

OPPORTUNITY offers for energetic man with engineering qualifications to take up service with London railway track supply firm. Age 30 years to 40 years.—Write Box 34, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

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largest on record. The warehouses and wharfs returned a profit more than twice that of the preceding year on account of the large increase in traffic handled. During the year the Chairman visited Cuba. He was able to obtain payment in cash of $775,844 out of the debt owing to the company, and received an assurance that an additional payment of $300,000 would be made as soon as Congress resumed. He was hopeful that payment of the amount referred to would be received early in 1948. The company's inability to pay any debenture interest was due to the inadequate net revenue which it was permitted to make, on account of high operating costs due to uneconomic wages fixed compulsorily by the Government, coupled with arrears of maintenance which had to be met at greatly enhanced prices.

Retail Prices Index.—The official index figure which measures changes in the average level of retail prices compared with the level at the base date, June 17, 1947 (taken as 100), was 106 on February 17. The corresponding figure on January 13 was 104.

Wetherby Racecourse Station Reopened.—The railway station adjoining Wetherby Racecourse was opened for passengers attending race meetings on Easter Monday and Tuesday. This is the first time the station has been used for this purpose since the outbreak of war in 1939. Additional trains were run from Leeds to Harrogate.

Aerostyle Limited 25th Anniversary.—On March 8 occurred the 25th anniversary of the formation of Aerostyle Limited, the company which before 1923 was known as Aerostyle & Lithos, and previous to that, the Aerostyle Syndicate. To celebrate the occasion, an "at home" was arranged at St. John Street, Clerkenwell, and invitations were sent to customers, suppliers, competitors in the London area, Government Departments, and representatives from local bodies. The guests were entertained in the works canteen. The Managing Director, Mr. F. Ernest Webb, who is President of the British Compressed Air Society and Chairman of the Spray Equipment Manufacturers' Association, invited the guests to inspect the works in small parties to view a wide variety of spraying machinery and apparatus.

Agreed Charges.—Applications for the approval of 82 further agreed charges under the provisions of section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Transport Tribunal. Notices of objection must be filed on or before April 13 next.

Midland Railway Carriage & Wagon Co. Ltd.—At an extraordinary general meeting held at Vickers House, Westminster, S.W.1, on March 19, 1948, a special resolution was passed to the effect that the company be wound up voluntarily and that Henry Grindall, of 1, Metropolitan Road, Saltley, Birmingham, 8, be appointed liquidator for the purposes of such winding-up.

Design Week—Wales.—A series of conferences sponsored by the Council of Industrial Design is to be held at Cardiff under the general heading of "Design Week—Wales" from April 12 to 17. Conferences will include one on light engineering and hardware, another on packaging and marketing, and a third on clothing, textiles, and accessories. Mr. Hugh Dalton, M.P., will inaugurate the conferences with a speech on April 12.

Brazil Railway Subsidiaries Purchased.—The joint committee of bondholders of the Brazil Railway Company announces that the Brazilian Congress has approved the purchase, for a total sum of £2,000,000, of the three subsidiary companies of the Brazil Railway Company expropriated under the terms of the Decree of July 22, 1940, namely:—Southern Brazil Lumber & Colonisation Company; Companhia Industrias Brasileiras de Papel; and Empreza de Armazens Frigorificos. The £2,000,000 has been received by the Brazil Railway Company in blocked sterling, out of the accumulated Brazilian sterling balances in London. Of this amount approximately £1,334,000 is attributable to the international bonds of the company, and £666,000 to its 6½ per cent. notes.

Castings Exhibit at B.I.F.—A selection of steel castings, covering a wide variety of industries, will be displayed at the Castle Bromwich, Birmingham, section of the British Industries Fair (May 3-14) by K. & L. Steelfounders & Engineers Limited, of Letchworth (Herts.), of the 600 Group of companies. They will include locomotive and wagon castings; excavator, crane, and steam roller castings; castings for the electrical industry; and Coborn cast-steel anvils.

Electric Lamp Prices Reduced.—As a contribution towards meeting the present economic situation, the General Electric Co. Ltd. announces that prices of Osram tungsten-filament lamps between 100 and 500 watts have been reduced as from March 15. The reduction applies to both clear and pearl types and, including purchase tax, amounts to 3d. on 100-watt lamps, 4d. on 150-watt, and 8d. on 200-watt lamps. The 300-watt and 500-watt lamps, which are not subject to purchase tax, are reduced by 6d. and 1s. respectively.

Tributes to 1947 Nobel Prize Winners.—Sir Edward Appleton and Sir Robert Robinson, the 1947 Nobel Prize Winners in Physics and Chemistry, respectively, addressed a meeting arranged in their honour by the Federation of British Industries at the Royal Institution on March 19; Sir Frederick Bain, President of the F.B.I., was in the chair. At a dinner given by the Federation at the May Fair Hotel the same evening in honour of Sir Edward

Appleton and Sir Robert Robinson, the Prime Minister said those great scientists had made outstanding contributions both in fundamental research and in the application of science to the needs of the community. He was glad that the F.B.I. was giving its recognition to them.

Canadian Freight Rates Increased.—The Canadian Board of Transport Commissioners on March 30 announced a 21 per cent. general increase in railway goods rates. The board's decision followed an 18 months' hearing of an application from the railways for a 30 per cent. increase, which was opposed by seven provinces. The increase will not apply to domestic grain moving between lake-head and the Pacific coast.

Herne Hill, Southern Railway, Accident Report.—Lt.-Colonel G. R. S. Wilson's report on the collision during dense fog at Herne Hill, Southern Railway, on November 6 last year (see our November 14 and 21, 1947, issues) was published on March 25. A steam train from Ramsgate collided with an electric train. One passenger in the electric train was killed and 23 injured. The report lays responsibility on the driver and guard of the steam train. It states that owing to misreading a hand danger signal, the train passed the main home signals and collided with the electric train at about 10 m.p.h. It is held that the immediate cause of the collision was a mistake by the fireman of the steam train in misreading a signal given by a hand lamp by a fog signalman. It was, however, the driver's duty to observe fixed or hand signals himself, especially as he knew that the fireman had little or no experience of train working in fog. Lt.-Colonel Wilson is not convinced that the guard applied the hand brake at all, nor that he really was sufficiently alert to observe any red light at the fog signalman's post.

Forthcoming Meetings

April 5 (*Mon.*).—The Society of Engineers at the apartments of the Geological Society, Burlington House, London, W., at 5.30 p.m. "Filtration," by Mr. C. G. Vokes, M.I.Mech.E., A.F.R.Ae.E., M.S.A.E.

April 6 (*Tues.*).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, at 6 p.m. Joint meeting of the Automobile Division with the Internal Combustion Engine Group. Discussion on: "Piston ring movement during blow-by in high-speed engines," by Mr. P. de K. Dykes, M.A., Ph.D., A.M.I., Mech.E.

April 7 (*Wed.*).—The Institution of Mechanical Engineers, Graduates' Section, London, Storey's Gate, St. James's Park, S.W.1, at 6.30 p.m. Annual joint meeting at the Institution with the students' sections of the Institution of Civil Engineers and Institution of Electrical Engineers. Discussion: "Tube Railways."

April 8 (*Thurs.*).—British Railways (Southern Region) Lecture & Debating Society, Annual General Meeting, at the Chapter House, St. Thomas's Street, London Bridge, S.E.1, at 5.45 p.m. Also, short papers will be read by a number of members.

April 8 (*Thurs.*).—Road Haulage Association Limited, at Caxton Hall, Westminster, S.W.1, at 10.30 a.m. Annual General Meeting.

Railway Stock Market

With main attention centred on the issue terms of British Electricity stock, which will be known by the time these notes are in print (dealings start on April 2), British Funds have been more active in generally quiet stock markets. Next Tuesday's Budget is expected to contain fresh steps to curb inflation, although the City is still hopeful that there may be moderate tax concessions designed to act as an incentive to increased production. In any case the view appears to be gaining ground that stock market business will improve following the Budget.

Owing to the recent weeks of inactive conditions, jobbers, particularly in industrials, are said to be short of shares, and as a result it is assumed that prices may be marked up sharply in the event of any real improvement in demand. The market is hopeful that there will be no further increase in the profits tax, which would act as the reverse of an incentive to industry and would bear heavily on many companies which are confined largely to the home market and are now suffering from shortages of materials diverted to the export drive. If there is a higher profits tax, it would seem that Sir Stafford is concerned mainly with curbing inflation, whereas it is believed in many quarters that this year may show that incentives to industry are equally important if the export drive is to succeed.

British Transport 3 per cent. (1978-88) stock has fluctuated moderately at the time of writing, awaiting the British Electricity stock issue terms. If the "life" of this stock is more than 10 years below that of Transport 3 per cent., the price of the latter may react below 97 according to current market views; but, on the other hand, if the life is only 10 per cent. shorter than Transport 3 per cent., the whole gilt-edged market may be stimulated. It is being pointed out that owing to the large sums awaiting investment, which will be further increased by pay-out money from Argentine rails, British Funds are more likely to improve than react in the near future, granted, of course, that British Electricity stock terms are in line with expectations. Moreover, if there were a higher profits tax, this would react unfavourably on industrials, and British Funds probably would be favoured at the expense of the latter.

Argentine rail ordinary and preference stocks continued to attract a fair amount of business, a little speculative buying of the ordinary stocks being attributed to hopeful views as to winding up "sweepings," which may slightly improve share-out terms of some of these stocks. These sweepings, however, can only be small in relation to the amount of ordinary stock in issue. Buenos Ayres Great Southern ordinary attracted a little buying following the sale of River Plate House for over £500,000.

Uruguay stocks were quieter, with Central Uruguay ordinary at 15 and the second debentures 81½, it now being recognised generally that it may be some weeks before the share-out terms are known. Elsewhere, Great Western of Brazil ordinary shares were 72s. 6d., but Leopoldina stocks eased, the ordinary being 15, the preference 47, and 4 per cent. debentures 73, although now the company's representatives are back from Rio de Janeiro, it may not be long before the take-over decision is known.

Leopoldina Terminal ordinary shares have continued to come in for a little speculative attention around 3s., while the 5 per cent. debentures were 68. San Paulo ordinary strengthened to 157½. Brazil Railway gold bonds at 46½ have responded on the Brazilian payment of the agreed sum for the subsidiaries. In other directions, Antofagasta ordinary was 11½ and the 5 per cent. preference 60. United of Havana 1906 debentures were 15.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Total 1947/8	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	834	21.3.48	62,200	+ 16,010	12	623,030	+ 180,120
	Bolivar	174	Feb., 1948	$87,758	− $25,850	9	$186,305	− $42,372
	Brazil	—	—	—	—	—	—	—
	Cent. Uruguay ...	970	20.3.48	52,689	+ 15,846	38	1,316,853	− 89,853
	Costa Rica	262	Jan., 1948	39,420	+ 9,103	31	237,139	+ 46,797
	Dorada	70	Feb., 1948	16,700	− 12,900	9	39,800	− 20,500
	G.W. of Brazil ...	1,030	20.3.48	39,400	+ 2,200	12	462,500	+ 4,400
	Inter. Ctl. Amer. ...	794	Jan., 1948	$1,257,553	+ $ 76,145	5	$1,257,553	+ $76,145
	La Guaira	22¾	Feb., 1948	$90,232	− $9,559	9	$168,310	− $56,757
	Leopoldina	1,918	20.3.48	51,781	− 5,936	12	625,985	− 117,768
	Mexican	483	31.5.47	ps.1,464,000	+ ps.459,100	22	ps.7,706,200	+ ps. 5,220,000
	Midland Uruguay ...	319	Feb., 1948	16,405	+ 8,378	35	143,912	+ 10,100
	Nitrate	382	15.3.48	11,222	+ 4,634	11	57,001	+ 18,463
	N.W. of Uruguay ...	113	Feb., 1948	5,261	+ 1,916	35	40,635	− 3,127
	Paraguay Cent. ...	274	19.3.48	£ 69,791	+ £ 17,855	38	£ 2,498,678	+ £ 86,988
	Peru Corp.	1,059	Feb., 1948	152,387	+ 19,314	35	1,359,079	+ 157,544
	Salvador	100	Dec., 1947	c251,000	+ c43,000	26	c722,600	+ c102,600
	San Paulo	153½	—	—	—	—	—	—
	Taltal	156	Feb., 1948	8,995	+ 6,125	35	58,605	+ 23,900
	United of Havana ...	1,301	20.3.48	113,836	+ 2,244	38	2,634,481	+ 412,268
	Uruguay Northern ...	73	Feb., 1948	1,261	+ 481	35	9,057	− 965
Canada	Canadian National ...	23,535	Jan., 1948	8,500,500	+ 286,000	5	8,500,500	+ 286,000
	Canadian Pacific ...	17,037	Feb., 1948	6,071,500	+ 812,750	9	12,303,000	+ 1,204,500
Various	Barsi Light†	202	Feb., 1948	20,445	+ 772	48	270,367	+ 24,825
	Beira	204	Jan., 1947	116,310	+ 29,791	18	469,223	+ 113,551
	Egyptian Delta ...	607	29.2.48	18,538	+ 4,573	48	569,862	− 48,579
	Gold Coast	536	Dec., 1947	204,032	− 8,365	39	1,392,691	− 230,301
	Manila	—	—	—	—	—	—	—
	Mid. of W. Australia	277	Jan., 1948	27,029	+ 9,233	31	162,529	+ 43,451
	Nigeria	1,900	Jan., 1948	521,787	+ 59,708	44	3,899,303	− 20,011
	Rhodesia	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938
	South African ...	13,323	6.3.48	1,299,481	+ 7,450	49	61,804,078	+ 5,259,883
	Victoria	4,774	Dec., 1947	1,450,410	+ 164,100	26	—	—

† Receipts are calculated @ 1s. 6d. to the rupee